Borough of Leicester.

FORTY-FIRST

ANNUAL REPORT

UPON THE

Health of Leicester

ANNO DOMINI

1890.

INCLUDING THE REPORT OF THE FEVER HOSPITAL

And the proceedings taken to prevent Adulteration of Food, &c.,

BY

HY. TOMKINS, M.D., B.Sc., San. Sci. Dipl.,

&c.,

Medical Officer of Health; Medical Superintendent to the Fever Hospital;
Police Surgeon; Public Analyst for the Borough, &c.

Associate of Owen's College.

Member of the Society of Medical Officers of Health, &c.

MEMBERS OF THE

SANITARY COMMITTEE.

Mr. ALDERMAN W. KEMPSON, J.P., Mayor *(ex officio)*.

Mr. Alderman Windley *(Chairman.)*
,, Councillor Ashby
,, ,, Biggs
,, ,, Billings
,, ,, Bremner
,, ,, Canner
,, ,, Cleaver
,, ,, Clifton
,, ,, G. Collins

Mr. Councillor Hollingworth
,, ,, Inskip
,, ,, Lakin
,, Alderman Lankester
,, Councillor Marshall
,, ,, Meadows
,, ,, Spurway
,, ,, Squire
,, Alderman Wheeler
,, Councillor Wilford

Meets Weekly, on Fridays, at 3-30 *p.m.*

CONTENTS.

Part I.—SANITATION GENERALLY.

Mortality of Borough in 1890—Proposed Extension of Boundaries—Prevalence of Sickness—Infectious Disease—Small Pox, Scarlet Fever, Typhoid, &c.—Infectious Disease Prevention Act, 1890—Diseases of Animals intended for Food—Water Supply—Baths—Artizan Dwellings—Bakehouses, Slaughterhouses, Dairies, &c.—Sewerage and Flood Works—Sewage Farm—Refuse Destructor—Excreta Disposal—Smoke Nuisance—Registration of Plumbers—Sanitary Legislation in 1890—Work of Sanitary Inspectors—Chief Inspector's Report—House Inspection, Prosecutions, Nuisances abated, Unwholesome Food Destroyed .... *pp.* 7 *to* 43.

Part II.—VITAL AND MORTAL STATISTICS.

Summary—Population and Area—Inhabited Houses—Marriages Births—Vaccination—Deaths and Death-rate—Leicester compared with other Towns—Infantile Mortality—Infantile Insurance—Illegitimacy—Ward Mortality—Classification of Deaths—Zymotic Diseases—Parasitic and Dietic Diseases—Constitutional Diseases—Local Diseases—Developmental Diseases—Violent Deaths—Deaths from ill-defined causes—Inquests—Uncertified Deaths—

pp. 44 to 74

Part III.—REPORT OF FEVER HOSPITAL.

Admissions to Hospital — Statistics of Cases — Expenditure and Receipts—Cost per Bed—Presents.......................... *pp.* 75 to 82

APPENDIX.

Analyst's Report—Localities of Zymotic Deaths—Mortality Tables

pp. 83 to 92

INDEX.

PRELIMINARY RETURN of Census Enumeration, 1891.

MAP OF BOROUGH

Shewing Typhoid and Scarlet Fever cases.

TABLES, DIAGRAMS, &c.

PAGE
Notification of Infectious Disease in English Towns 11
Infectious Disease notified in each quarter of the year 13
Infectious Disease notified yearly since 1879 to 1890 15
Weekly Deaths from Diarrhœa 19
Work of Sanitary Staff 39, 40, 41, 42, 43
Summary of Vital Statistics 44
***Population, Houses, Marriages, Births and Deaths** 46
***Annual Birth and Death-rate, &c.** 48
Death-rates in large English Towns 50
Quarterly Deaths 51
Corrected comparative Death-rates of large English Towns 52
Infantile Mortality of large Towns 54
Deaths from Infantile Diseases 56
Ward Mortality 57, 58
Deaths in the eight classes of Disease 59
Diagram of principal causes of death 60
Zymotic Deaths in the various Wards 62
***Zymotic Deaths, 1890 and ten preceding years** 64
Monthly Deaths from Scarlet Fever, 1879 to 1890 65
Ages of persons suffering from Scarlet Fever 68
***Deaths from certain groups of Disease** 70
Statistics of Fever Hospital 76, 78, 79, 80
***Mortality Tables, classified into Ages and Diseases** ... 93

The tables marked are drawn up in accordance with the suggestions of the Society of Medical Officers of Health, with a view to securing some uniformity in the various Health Reports throughout the country.

HEALTH DEPARTMENT,
TOWN HALL, LEICESTER,

March 25th, 1891.

To the Chairman and Members of the Sanitary Committee.

GENTLEMEN,

I have much pleasure in presenting to you my sixth annual Report upon the Health of Leicester, and to again record a low mortality in the Borough, for although the death-rate was a little higher than in the preceding twelve months, Leicester (with Brighton having a rate of 17 8 per 1000) stands second amongst all the large towns of the kingdom.

I have divided this Report, as in former years, into three parts, and an appendix. In the first part will be found a general description of the health of the town during the year, the prevalence or otherwise of infectious disease, and the measures taken to prevent their spread, together with an epitome of work carried on, having for its immediate object the health and well-being of the community at large.

In Part II. are set forth, in detail, the vital statistics of the year, and although to many people these may be exceedingly dry, yet correctly obtained, and properly arranged, they form the true basis upon which we must found any conclusions as to real advancement. To those interested in such matters they will repay attention.

Part III. contains the year's work at the Fever Hospital, whilst in the Appendix will be found my report as Public Analyst under the Adulteration Acts, &c.

The impending Borough extension, foreshadows a large amount of additional work for the Committee, and I would take this opportunity to again urge the desirability of providing small open spaces in the midst of the ever-increasing mass of brick and mortar, in advance of the time when districts become completely covered with houses; also, the need for taking steps to abolish at least the worst of the slaughter-houses from the densely-crowded parts of the town; and the substitution, as far as possible, of the water closet for the pail system at present largely in vogue. Amongst other matters which will require much thought and attention from the Committee, are the provision of additional Destructors, and the remodelling or re-erection of the Borough Fever Hospital, within the near future.

I remain, Gentlemen,
Your obedient servant,
HY. TOMKINS.

By an Order of the Local Government Board, dated March, 1880, Article 18, Section 14, it is prescribed that every Medical Officer of Health shall—

"Prepare an Annual Report, to be made to the end of December in each "year, comprising a summary of the action taken during the year for "preventing the spread of disease, and an account of the sanitary state of "his district generally, at the end of the year.

"The Report shall also contain an account of the inquiries which he has made "as to conditions injurious to health existing in his district, and of the "proceedings in which he has taken part or advised under the Public "Health Act, 1875, so far as such proceedings relate to those conditions.

"Also an account of the supervision exercised by him, or on his advice, for "sanitary purposes, over places and houses that the Sanitary Authority "have power to regulate, with the nature and results of any proceedings "which may have been so required and taken in respect of the same "during the year.

"It shall also record the action taken by him, or on his advice during the "year, in regard to offensive trades and to factories and workshops.

"The report shall also contain tubular statements of the sickness and mortality "within the district, classified according to diseases, ages and localities."

CORRIGENDA.

After the body of this Report was printed, and just as it was leaving the printer's hands, the Census Figures have been published by the Chief Registrar for the Borough. Subject to correction from London, the Population is stated to be only 142,051, a much lower total than was anticipated, the explanation being, that many thousands of persons are living in the new districts recently sprung up just over the Borough Boundaries. Calculated on the above figures, the death-rate last year was 19·2, instead of 17·8, as estimated. The Census enumeration as supplied by Mr. Lionel Chamberlain, is inserted at the end of this Report.

Page 72, bottom line, for "one from poison," read "five from poison."

REPORT

OF

Medical Officer of Health

FOR 1890.

-8 JUN 91

PART I.

SANITATION GENERALLY.

Health of Leicester during 1890.—In common with the country at large, the mortality of the Borough of Leicester has been somewhat higher than in the previous year. Calculated on the present estimated population of 154,344, the death-rate was 17·8 per 1000. In all probability, however, when the figures of the forthcoming census are to hand, it will be found that the population is somewhat over-stated by the Registrar General, and, therefore, to that extent the death-rate is *under-stated.* If there should be found any serious discrepancy, a supplemental statement will be issued to this Report. The death-rate last year throughout England and Wales was 19·2, as against 17·9 in the year 1889; and in the twenty-eight great towns of the kingdom 21·2, as against 19·3 in the previous year. Nottingham comes first with a mortality of only 16·5 per 1000, whilst Leicester and Brighton come next, each with a rate of 17·8, so that Leicester still maintains its high place upon the health-roll of the large urban communities of the country. *(See Vital Statistics, Part II.)*

Probable over-estimate of Population.

Extension of Borough Boundaries.—This Report will probably be the last relating to the Borough as it has existed for many years, for during the year now under review active steps have been taken to extend its boundaries to a very considerable extent. By the proposed scheme, unless modified in Parliament, there will be added to the Borough an estimated population of upwards of 34,000 persons, and an area of 9422 acres, with a rateable value of £106,719. The parishes included will be Belgrave, Leicester Abbey, part of Humberstone, part of Evington, Knighton, Freake's Ground, New Found Pool, part of Aylestone, and part of Braunstone. This increase to the Borough will add largely to the duties and work coming within the province of the Sanitary Committee, as in several of the adjoining districts sanitary arrangements and other matters affecting the public health are far from what they should be in a large urban community.

Districts
roposed to be
incorporated.

Prevalence of Sickness.—In the Appendix will be found the Mortality Tables, setting forth in detail the causes and ages of every death that has occurred in the Borough during the year, a total of *2799, as against 2513 in 1889. In these tables it is seen that the zymotic group is accountable for 375, as against 372 in the year before. But the chief increase in the mortality is found amongst the fifth class, or local diseases, and the sixth or developmental class, disease of heart and lungs shewing a considerable increase upon the numbers of the previous year. No doubt some of this was due indirectly to the epidemic of influenza which prevailed in the early months, for though only seven deaths were directly attributed to this ailment, diseases of the respiratory organs were much more fatal during its prevalence.

Causes of
Increased
Mortality.

Infectious Disease in 1890.—Turning to those ailments, of some of which we have by means of notification more exact knowledge respecting the amount of sickness caused by them, the year just ended compares favourably with previous years.

---

* *It should be pointed out that the total of 2799 is for 53 weeks, whereas the years immediately preceding contain totals for 52 weeks only. Allowance is made for this in calculating the death-rate for the year.*

No death and no case of small-pox was met with. Measles caused 30 deaths, as against 62 in the previous year; Scarlet Fever 38, as against 6; Diphtheria 11, as against 10; Whooping Cough 16, as against 26; Typhoid Fever 24, against 22; and Diarrhœa 218, as against 221. The decrease in Measle deaths is seen to be exactly balanced by an increase in those from Scarlet Fever.

Zymotic Mortality not increased

In reviewing the year, the only zymotics that have assumed anything, approaching epidemic proportions have been Influenza and Measles. During the first three months Leicester, in common with the rest of the country, passed through a severe outbreak of the former disease. It commenced late in the December of 1889, and continued on into March of the year now under review. As this outbreak was alluded to at considerable length in last year's Health Report, it is unnecessary to repeat what was then said. As stated above, seven deaths only were attributed directly to Influenza. Many years have elapsed since the Mortality Tables of Leicester contained any deaths from this disorder. It is impossible to state with anything like exactitude the number of persons who experienced an attack, but probably not less than ten to fifteen thousand of the population were affected by it.

Influenza in 1890.

During the last quarter of the year, a widespread outbreak of Measles took place. It appeared to prevail first, most extensively in the Highfields Districts, spreading rapidly to the lower part of the town, especially Belgrave Gate and around the Great Northern Station, until almost every district of the town was invaded. It was not until the time of writing (January, 1891) that it reached the West End, but that district is now in its turn passing through an outbreak. This disease not being notified it is impossible to say even approximately what the number of attacks has been; but judging from the effect upon the school attendances, it must amount to some thousands. In several instances, on the advice of your Medical Officer of Health, the Infant Departments of Schools were closed, as the aggregation of large numbers of children for hours together undoubtedly favoured its spread, though it must be confessed, that the apathy and

Epidemics of Measles, apathy of Parents in pre venting spreac thereof.

indifference of the bulk of parents, respecting this disease, makes it almost hopeless to attempt any effective measures to check its progress. During the first and second quarter of the year no death was recorded from it, in the third quarter there were six, and in the fourth quarter twenty-four. Judging therefore from these figures, the epidemic has not been of a severe type.

Whooping Cough has not been very prevalent, only sixteen deaths being recorded from it, nine of which were in the fourth quarter of the year.

Coming now to those diseases of which we have exact information by means of notification, on the whole the record is not a bad one. It may be noted in passing that compulsory notification now exists throughout the whole country, and is not confined to the chief towns alone, almost all energetic Health Authorities having availed themselves of "The Notification of Infectious Diseases Act of 1889."

During the year, 966 cases of these diseases have come within the cognizance of the Health Department, of which 516 were Scarlet Fever, 165 Typhoid, 75 Diphtheria, 207 Erysipelas, and 3 Puerperal Fever.

Immunity from Small Pox.

Small Pox.—No case of Small Pox was met with, although three supposed cases were reported to your Officer of Health, but each on investigation proved not to be Small Pox. In this complete immunity, however, Leicester by no means stands alone, for many of the other large towns of the kingdom have also a perfectly clear record for the year. *(See Table A.)*

TABLE A.

Cases of Infectious Disease in the following Towns during 1890, from Jan. 1st to Dec. 31st.

Name of Town.	Population.	Small Pox.	Scarlet Fever.	Diphtheria.	Typhus Fever.	Enteric Fever.	Puerperal Fever.	Erysipelas.
Bradford	240,515	0	546	32	2	155	0	
Bolton	115,846	0	1111	73	15	100	4	
Derby	100,871	5	345	74	0	65	1	
Huddersfield	94,253	3	167	16	0	57	1	
Hull	213,833	19	338	47	1	156	18	
Leicester	**154,344**	**0**	**516**	**75**	**0**	**165**	**3**	**207**
Manchester ...	379,437	0	2056	468	11	432	40	
Nottingham ...	244,909	0	945	62	0	328	0	
Oldham	146,716	0	330	11	2	64	7	
Portsmouth ...	142,952	0	587	215	0	481	2	
Preston	105,163	0	273	37	0	161	8	
Salford	242,509	0	919	692	7	325	22	
Sunderland ...	136,506	0	448	37	5	125	6	

NOTE.—The above figures are compiled from the Monthly Returns published in the SANITARY RECORD *during* 1890.

From the following figures it is seen that there has been an increase of 106 notified cases, compared with the previous year:

	Small Pox.	Typhoid.	Erysipelas.	Puerperal Fever.	Diphtheria.	Scarlet Fever.	Totals.
1890......	0	165	207	3	75	516	966
1889......	0	147	219	1	84	409	860

this increase being caused chiefly by a larger number of cases of Scarlet Fever.

Scarlet Fever.—There has throughout the year been a wide-spread prevalence of Scarlet Fever in the town, which, without amounting to anything like an epidemic, has sufficed to keep the staff of the department constantly on the alert to prevent its spread, and has also kept the wards set apart for that disease at the Fever Hospital tolerably well filled the whole year. *(See Hospital Report, Part III.)* In the first quarter, 113 cases were met with; 125 in the second, 130 in the third, and 148 in the fourth quarter. *(See Table B.)* This is the largest number since the year 1886, when 817 were reported. The longer the experience in studying this disease, the more it is impressed upon one's mind, that there are what may be termed epidemic waves, or cycles of prevalency, rising and falling every few years. Thirty-eight deaths resulted from it, this again being the largest number since 1886, when forty-four deaths were registered. Considering that the type of the disease was in a large number of instances of a very severe character, this mortality is not excessive. There can be no doubt that but for the vigilance in promptly isolating all cases, followed by efficient disinfection of the infected houses the extension and mortality therefrom would have been very much greater. In effecting this, the Fever Hospital has done most useful work: no less than 400 patients have been removed there, or 77 per cent. of

Prevalence of Scarlet Fever.

Isloation in Hospital.

TABLE B.

Showing number of persons suffering from notified Diseases during each of the years 1890, 1889, 1888, 1887, and 1886.

1890.	Scarlet Fever.	Typhoid Fever.	Diphtheria.	Erysipelas.	Puerperal Fever.	Small Pox.
First Quarter	113	38	11	47	3	0
Second "	125	31	17	50	0	0
Third "	130	47	17	50	0	0
Fourth "	148	49	30	60	0	0
Total in 1890......	516	165	75	207	3	0
1889.						
First Quarter	55	12	16	49	1	0
Second "	51	52	25	56	0	0
Third "	89	39	20	49	0	0
Fourth "	214	42	23	65	0	0
Total in 1889	409	145	84	219	1	0
1888.						
First Quarter	37	95	14	73	3	14
Second "	14	74	21	59	1	3
Third "	41	52	11	45	3	4
Fourth "	40	45	21	78	1	0
Total in 1888	132	266	67	255	8	21
1887.						
First Quarter	108	20	23	71	0	0
Second "	64	19	14	58	1	0
Third "	35	102	10	67	0	0
Fourth "	65	81	34	112	5	9
Total in 1887.. ...	272	222	81	308	6	9
1886.						
First Quarter	253	14	5	71	1	0
Second "	145	26	11	53	3	1
Third "	219	45	9	63	3	0
Fourth "	200	56	26	71	5	0
Total in 1886......	817	141	51	258	12	1

the whole; the greater number of those remaining at home being in the better class of society, where satisfactory isolation from the rest of the family could be practised, or where, from some other reason, removal to Hospital was not deemed necessary.

So large a proportion of removals to Hospital is highly satisfactory, and speaks well for the Hospital and the place it holds in the estimation of the public. In addition to the patients from the Borough, eighty others were admitted from the surrounding districts. If it be asked to what the increased prevalence of Scarlet Fever during the past year is due, no satisfactory answer can be given. Leicester suffered in commonwith almost all other parts of the country, many of the large towns being much worse than ours. In London during November, the cases in Hospital alone were more than 2000, these slowly decreasing as the year closed.

Prevalence of Scarlet Fever in other parts of England.

Towards the end of June many cases arose in the Abbey Gate district, and on more than one occasion children who had suffered from a mild attack, and to whom no medical man had been called were found running about the streets mixing with other children. Placards were therefore issued, cautioning parents against this dangerous practice. In the adjoining districts outside the Borough, the disease has also been prevalent. So far as the Borough is concerned no steps have been omitted which would help to check its spread, every case has been visited and enquired into, and promptly dealt with. In the Appendix a special map will be found showing the *exact locality of every case reported.* For details respecting those sent into Hospital, see Hospital Report, Part III. of this Report, and for the complete statistics of the same see Vital Statistics, Part II.

Spread favoured by carelessness.

Typhoid Fever.—The records of the year relating to Typhoid Fever may be considered satisfactory. 165 cases have been met with, as against 147 in 1889, of which 24 were fatal. It will be seen from Table C that this number is below the yearly average since notification came into force, especially so when the increase in the population at the present time is taken into account. From the map given in the Appendix where the locality of each case is shown, it will be seen that there has been no special incidence upon any one district of the town. In the autumn of the year, as always happens, there was an increase, though not to any abnormal extent; in the first quarter 38 cases were met with, in the second 31, in the third 47, and in the fourth 49. Every case has been visited, and every means taken to

TABLE C.

Notified Cases of Infectious Disease in each of the years 1879 to 1890 inclusive.

	Scarlet Fever.	Typhoid.	Erysipelas.	Diphtheria.	Small Pox.	Puerperal Fever.
*1879	496	56	125	24	0	
1880	802	245	442	87	0	6
1881	1065	179	566	63	5	15
1882	763	110	455	38	29	14
1883	797	85	317	26	12	12
1884	728	55	239	184	3	0
1885	1816	216	294	55	8	8
1886	817	141	258	51	1	12
1887	272	222	308	81	9	6
1888	132	266	255	67	21	8
1889	409	147	219	84	0	1
1890	516	165	207	75	0	3

The numbers in 1883, 1882, 1881, *and* 1880, *are* CERTIFICATES *only, and may not include quite all the* CASES.

* *N.B.—In this year the cases are only reckoned from September* 13*th to the end of* 1879, *this being the first day the act came into effect.*

ascertain the origin, though as is unavoidable amongst a large town-population, in numerous instances no local cause for the disease could be discovered. In a number of dwellings, however, from the inspections made, and as a result of applying the smoke test, serious sanitary defects were brought to light. In many instances, the dirty ways of the people themselves, were such, as to favour an attack of this disease, for amongst some of the lowest class of the population, habits are often met with, which are indescribably filthy. Four cases were distinctly traceable to infection at Oadby, where, in August, there was rather a serious outbreak.

Origin of Typhoid Fever.

Hospital Treatment of Typhoid.—Of the above 165 cases, sixty were removed to the Fever Wards of the Infirmary, five were taken to the Workhouse Hospital by the Guardians, the remainder, representing chiefly the milder cases, were treated in their own homes, though amongst these latter there were many that from a public health point of view, no less than in the interests of the patients themselves, would have been much better removed to Hospital. This subject of Hospital treatment of Enteric Fever has attracted some amount of public attention in the Borough during the year. Hitherto the Infirmary has provided the chief means of isolation for this disease, but owing to shortness of funds the authorities there, have asked for pecuniary assistance in this branch of their work, both from the Board of Guardians and from the Corporation, if they are to continue to admit patients suffering from this disease into their Fever Wards. The subject is now under consideration by the Council and Sanitary Committee. It would be a public misfortune if from any cause whatever cases of Typhoid Fever, especially amongst the crowded homes of the poor, should be left scattered over the town, serving as they would in many cases, as foci of infection, and contributing to the spread of this insidious disease.

Request by Infirmary for assistance in treating Typhoid.

Diphtheria.—A decrease of nine in the cases notified last year is seen from Table C, the number being 75 against 84.

The deaths were eleven. It is well-known to those who study the disease statistics of the country, that Diphtheria has during the past few years, shown a steady and marked increase in our large town populations, and last year was no exception to this, as the mortality returns plainly indicate. Formerly Diphtheria prevailed more in the rural, and less in the urban districts: this is now changed, but the reason thereof is at present obscure, if not unknown. It is often set down to defective sewerage or faulty sanitation, but never, probably, were these things more efficiently looked after in most of our great towns than at the present time. In the face of these facts the record for our own town is highly satisfactory; in truth, as has been remarked in former Health Reports, real Diphtheria, of anything like a virulent or infectious character, is almost unknown in Leicester. The bulk of the cases reported are amongst very young children, and the symptoms are often more of a croupous than true diphtheritic character. The eleven deaths recorded last year *were all amongst children*, six of whom were under 5 years of age.

Erysipelas, Puerperal Fever, &c.—Of the remaining diseases which are notified, a few words will be sufficient; full statistics relating to them, as well as the above, will be found in Part II. There is a small decrease in the number of Erysipelas cases notified, 207 against 219 in the previous twelve months; but these cases have no significance from a public health standpoint, slight cuts, bruises, wounds, and other injuries often of a very minor character, account for a large proportion of these—not one-fourth of the total being seriouscases. Of Puerperal Fever three cases only have been reported, of these one was fatal. Continued Fevers, other than Enteric—*i.e.*, Typhus—Relapsing are altogether unknown in Leicester. *(See Tables A.)*

Trivial character of many Erysipelas cases.

Infectious Disease Prevention Act, 1890.—Whilst speaking of Infectious Diseases, allusion may be made to a very useful, though small, piece of legislation of the past year, having direct bearing upon this class of disease. "The Infectious

Disease Prevention Act, 1890," may be considered as a corollary to "The Notification of Infectious Disease Act, 1889," another of Mr. Ritchie's useful pieces of work in connection with the public health. This small act, compulsory for London, but permissive in the provinces (though it cannot be rescinded when once put in force), gives increased powers in checking and controlling Infectious Diseases. Thus it provides *inter alia* for the more effective control and supervision of dairies and milk supplies, especially where the latter are suspected of being concerned in spreading disease. It gives greater powers and facilities for enforcing proper and effective cleansing and disinfection of infected premises, &c. The necessary steps have been taken by the Council for shortly putting this Act in force within the Borough.

Increased powers in dealing with Infectious Disease.

Diarrhœa.—Diarrhœa prevailed as usual during July and August, causing 218 deaths, of which 190 were infants under 1 year of age. (Only twelve deaths occurred amongst patients over 5 years of age.) The year 1890 was, therefore, somewhat below the average in its fatality, a temperature below the average, and a rainfall somewhat in excess, during July and August, fully accounting for this.

Diarrhœa medicine was, as heretofore, distributed gratuitously by the Corporation, the number of persons thus supplied being 4183, of whom 1120 were under ten years of age, and 3063 *above that age*, showing what has been now proved over and over again, that though the mortality is chiefly amongst infants, the disease prevails just as much among those of older years. The smaller number of persons supplied with medicine this year, as compared with some former ones, is partly explained by the fact that one distributing centre was abolished last summer. In Table D is given, as in former years, the deaths as they occurred week by week.

Ages of Patients supplied with Medicine.

The observations made in previous summers respecting the earth temperatures, rainfall, &c., were repeated during the summer months, but as the conclusions arrived at, from similar observations in former years have not been altered, it is unnecessary to refer in detail to what already has been fully reported upon in the last three or four Health Reports.

TABLE D.

Weekly Deaths from Diarrhœa.

	1885.	1886.	1887.	1888.	1889.	1890.
Week ending						
June 20.........	1	0	0	1	3	4
,, 27.........	1	1	1	1	8	5
July 4..... ...	6	1	3	0	17	8
,, 11.........	10	2	20	1	24	17
,, 18.........	25	9	32	5	28	17
,, 25.........	35	8	45	2	23	15
August 1.........	24	29	33	2	20	16
,, 8.........	26	23	31	7	17	20
,, 15.........	10	20	23	2	19	14
,, 22.........	9	10	11	2	13	13
,, 29.........	7	20	8	15	4	17
Sept. 5.........	6	20	10	13	9	13
,, 12.........	3	33	10	25	5	4
,, 19.........	5	17	3	15	5	6
,, 26.........	1	9	3	14	2	4
Oct. 3..... ...	1	11	2	10	1	7
,, 10.........	0	7	0	9	4	10
,, 17.........	0	5	2	5	2	11
,, 24........	0	3	2	0	0	3
,, 31..... ...	0	2	0	2	0	1

Epizootic Disease.—There has been but little disease affecting the lower animals which has any direct relation with man or his food supplies. A few cases of Swine Fever being the chief of these.

Result of M. Pasteur's treatment.

Rabies—Since the case of Rabies which occurred in January, and alluded to in last year's Report, no other has occurred in the town. It may be of interest to note that the three patients who were bitten, and taken to Paris for treatment by M. Pasteur, have up to the present time remained in perfect health.

Need for more stringent Meat Inspection.

Diseases of Animals intended for Food.—With the exception of three sheep seized alive, by the Inspector, at the Cattle Market early in the year, no animal suffering from Tuberculosis has been met with, nor any carcase seized, manifestly affected, with this disease. But seeing how much of our meat is from animals slaughtered *without being inspected during life*, it is certain that cases of Tuberculosis in an early stage escape detection. To what extent tuberculous animals should be condemned as unfit for food, is at present a moot point, but the need for a more rigid inspection of our meat supplies is year by year becoming better realized. England, the greatest flesh-eating country in the world, has hitherto had a much less rigorous supervision of its meat, than many continental countries. It is a revelation to visit, for instance, the municipal abattoirs of Berlin, in which city, by a most searching system of examination *both before* as well as after slaughtering, it is almost impossible for any diseased meat to reach the consumer. In Berlin, it is a penal offence for any butcher or dealer in meat to have upon his premises, any meat whatsoever, that has not been officially examined.

Diseased Meat sent to Borough.

In May, information reached the Inspector that the carcase of a cow suffering from "cancer of the eye" had been slaughtered in a neighbouring village, and the carcase sent into Leicester. The head had been carefully kept back, the carcase cut up and disposed of in the ordinary way of trade. The possibility of such a thing as this occurring is sufficient to warrant more stringent provisions being put in force. It should, however, in justice be said that cancer (as we usually understand the term) among the lower animals is of great rarity, and the above case was probably, from the description given, one of some diseased growth of the orbit, of a fungoid character.

Water Supply.—During the year Parliamentary Powers have been obtained for increasing the Water Supply to the Borough. Hitherto the public supply to the town has been derived from a gathering ground of upwards of 7000 acres situate on the Charnwood Forest, with Reserviors at Bradgate and Thornton, having a storage capacity of 889,000,000 gallons. The yield in years of average rainfall is 4,000,000 per day, which at 20 gals. per head wlll supply a population of 200,000 souls. In times of drought, however, although the population supplied is some thousands short of the above number, the visible supply of water has become dangerously low, and having in view the rapid and continued increase of the population, it was but simple prudence on the part of the Water Committee to seek to increase their resources. They have acquired powers, therefore, to construct a reservoir upon the Swithland Brook, which, it is estimated, when fully completed and utilized, will afford an additional supply of 2,000,000 gallons per day. The water-consuming population is now estimated at 185,000 persons, and during 1890 the consumption has been 18·5 gals. daily. During the year the limit of supply has been extended to Wigston Magna, and to a new estate in Gipsy Lane, Belgrave, whilst amongst the provisions of the new Bill are some by which water will have to be supplied from the new source to Quorndon, and Barrow-upon-Soar.

Increased Water Supply to Town.

Baths.—The provision of improved and increased bathing accommodation has been amongst the features of the past year's work. On the site of the old St. Mary's Bathing Station, a new and commodious out-door bathing place has been constructed in connection with the Flood Works now finished there. This Bathing Station provides all that can reasonably be asked for, and

New Out-door Bathing Station.

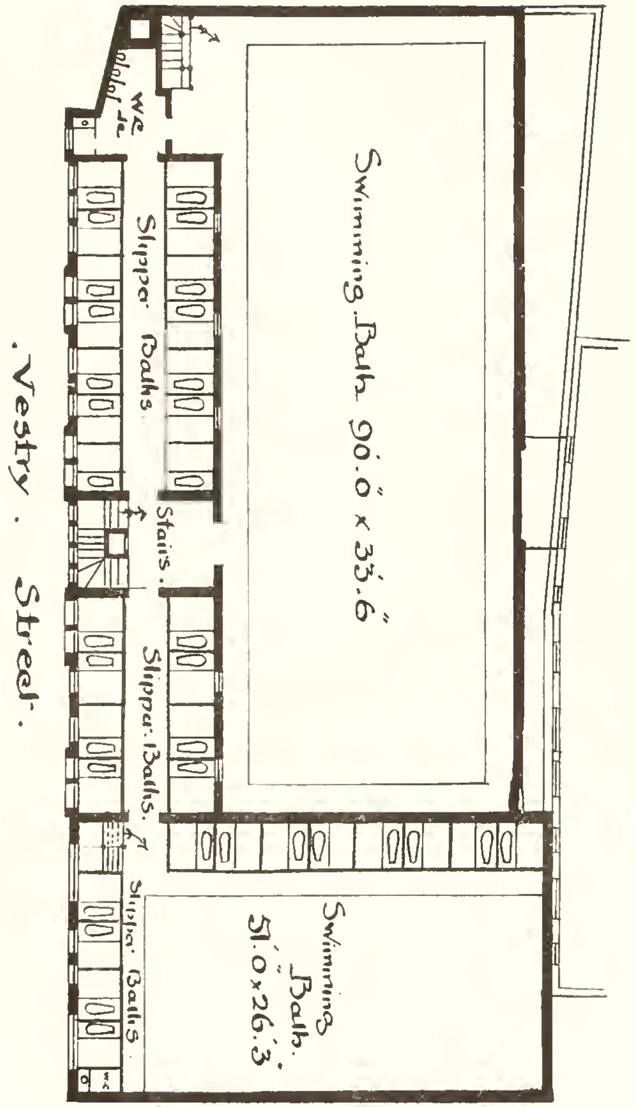
forms a most acceptable addition to other measures for promoting health and cleanliness amongst the masses of the people. The Open Air Swimming Bath at the Pasture has been well patronized during the year. Both these are free to the public, a charge only being made for towels, drawers, or private boxes. The income at these two stations was £64, and the expenses £50.

The New Public Baths in Vestry Street (designed by Mr. Stockdale Harrison) have not, as was hoped, been finished during the year, but the work is now fast approaching completion. The accompanying sketch plan (kindly supplied by the Architect) shows the general arrangement of the Baths, of which there are two large ones, measuring 90ft. by 33ft. 6in., and 51ft. by 26ft. 3in. respectively. These are lined with white tiles, and will be supplied with water obtained on the premises from a deep boring; but as this water is very hard, it will be used only for the Swimming Baths.

Thirty-eight slipper baths have been provided, of the most approved pattern, and throughout the whole building the Architect has constructed and arranged everything in accordance with the most modern and improved designs for large public baths. It is a pity that the handsome elevation, which is faced with pressed red bricks and stone dressings, is to a great extent lost and hidden from view in a small side thoroughfare like Vestry Street.

The Old Baths in Bath Lane have been fully utilized, the number of bathers being the largest of any year since they have been in existence. Subjoined are the figures relating thereto:—

	£	s.	d.
59,085 persons paid for admission to the Penny Swimming Bath	246	3	9
19,261 persons paid for admission to the First-class (Men's) Swimming Bath, at 6d., 4d. and 3d. each	310	8	1
1,690 persons paid for admission to the Ladies' Swimming Bath, at 6d., 4d. and 3d. each	26	14	1
16,598 persons paid for admission to the Slipper and Shower Baths, at 9d., 6d., 4d., and 3d. each ...	390	7	2
Books of Tickets	79	10	2
Use of Bathing Drawers, &c.	29	3	8
	£1082	6	11



Plan at Balcony Floor level.

New Baths in Vestry Street.

ROYAL ... OF ENGLAND
-8 JUN 91
LIBRARY

Artizan Dwellings, Lodging Houses, &c.—No action has yet been taken in Leicester to provide by the Municipal Authorities, dwellings for the poorer classes. As previously stated in these Reports, there does not exist in the Borough any district or collection of cottages or dwellings which can be condemned as so bad or unhealthy as to render them absolutely unfit for human habitation. That there are in many of our courts and in some of the older parts of the town (notably in and about Jewry Wall Street), many wretched cottage dwellings which it would be most desirable to see cleared away is well known, and if the proposed Railway Extension of the Manchester, Sheffield, and Lincolnshire Railway be carried out according to the deposited plans, an important step in this direction will be taken. Good cottage property, for those who can afford to pay 4s. 6d. to 6s. 6d. rental per week is provided abundantly, in and around the town, but it is small tenements, consisting of two or three rooms, at a rental of 3s. to 4s. 6d. per week, for which there is some need, and to provide which is a difficult problem. In some of our large towns such provision is experimentally being made. Amongst these may be cited Manchester, Huddersfield, Glasgow, Birmingham, Liverpool, and Dublin. From the latter City very encouraging reports have been given, as will be seen from the following description :—" Two years ago the Corporation demolished thirty-seven wretched old tenement houses, such as " Dublin has more extensively than any English City of equal " size. They had plans for erecting eighty-five new dwellings on " the cleared site, but the estimated cost was £12,500, and the " loan previously sanctioned by the Local Government Board " amounted to only £10,325. The Artizans' Dwellings Com" mittee of the Municipal Council instructed the borough " surveyor to prepare a scheme that would not exceed the loan, " and accordingly he furnished plans for eighty-six tenements, " (one additional) at the reduced sum, and that estimate has not " been exceeded in the execution of the plans by one sixpence."

Need for small Tenements.

" Here are some minute details. The houses, twenty-two " in number, are two-stories each, and built in two blocks. Each

Tenements Built by Dublin Corporation.

"house consists of four tenements, two on the ground and two above. Each ground floor tenement has a garden some eighty feet long, others sixty, and a few forty; the upper tenements have, of course, no gardens, but have, instead, flat asphalted roofs. The smallest class of tenements in the blocks comprise a living-room, bed-room, scullery, water-closet, for 2s. a week rent. In others, for which sixpence extra is charged, a large bed recess has been formed in the living-room. For 3s. a ground floor tenement with a garden is obtainable. The blocks are divided as follows:—

Nineteen tenements at 2s. weekly.
Nineteen tenements with bed-recess, 2s. 6d. weekly.
Nineteen tenements with gardens, 3s. weekly.
Nineteen tenements, with gardens, and bed-recess, 3s. 6d. weekly.
Three shop-tenements 5s. weekly.
Two shop-tenements with additional accommodation, 5s. 6d.
Two tenements, with three larger rooms, scullery, and w.c., 4s. 6d.; and
Three tenements, with additional bed-recess, 5s. 6d.
Making a total of 86 in all.

"The houses have been constructed on the principle of making philanthropy pay, and the balance-sheet may be set out:—

"The amount of the loan was £10,325. The site costs £1325, the construction of the buildings £7,375; the roads, sewers, water and gas, £750; and the supervision and other contingencies about £800, leaving a balance of £70 or £80. The amount of the Loan is repayable in forty-years, or requiring an annual instalment of £258 2s. 6d. Then there will be an average annual amount for interest on the loan of £174 4s. 8d.; repairs of buildings, insurance, and allowance for vacancies, £46 13s. 6d.; and wages of the superintendent, £1 weekly. This makes an annual charge upon the buildings of £531 0s. 8d; and as the Corporation is not only determined that the buildings shall pay for themselves but bear city rates as well, £112 10s.

"has to be set down for taxes, bringing the total annual charge to "£643 10s. 0d. The dwellings will, however, produce a weekly "rental of £12 16s. 6d., or £666 18s. 0d. a year; so that the "Corporation will pay back the Loan, pay interest upon it, pay "taxes to itself, and last, but not least, benefit the City by pro-"viding healthy dwellings for the poor, and still be £23 a year to "the good; and at the end of forty years the Corporation will be "in possession of a fine set of buildings, yielding a net profit of "£400 a year. For the eighty-six tenements the Committee of "the Corporation has received four hundred and twenty appli-"cations. They have selected a sufficient number, of whom "sixty are labourers, to submit to the Council for acceptance.

At Edinburgh considerable demolition of insanitary property has been accomplished by the local authorities, but the re-erection of dwellings upon the sites thus dealt with has been left to private enterprise of a semi-philanthropic character.

At Salford, a scheme is under consideration by the Town Council for erecting Artizan Dwellings upon sites where property has recently been condemned.

New Act of Parliament.

During the past year, an important piece of sanitary legislation bearing upon this question has been enacted. "The Housing of the Working Classes Act, 1890," codifies and simplifies the numerous pre-existing Acts, known variously as Torren's, Shaftesbury's, and Cross's Acts. It gives much greater facilities for dealing promptly with either unsanitary areas, or individual houses or blocks of property, and gives increased powers to local authorities to provide Artizan Dwellings when they consider such provision desirable.

Lodging Houses.

With respect to the erection of a Model Lodging House by the Sanitary Committee (sanctioned more than a year ago, by a majority of only one vote in the Council), no steps have yet been taken. There is, however, some improvement to record in the existing houses. During the year one or two of the oldest and worst have been closed or demolished; others have been reconstructed, or put in a better sanitary condition; and one large new building of a very satisfactory character has been erected in

Bedford Street, which, however, provides *only for men.* There still exists need for an improved Model Lodging House in the town, where women can be received and lodged.

The whole of these places have been regularly visited and inspected, both by night and by day, by the Sanitary Inspectors, and the bye-laws relating to cleanliness, divisions of sexes, overcrowding, &c., properly enforced. *(See Inspector's Report.)*

Bakehouses, Slaughter Houses, Dairies, Factories, &c.—Taken as a whole, the Bakehouses of the town are not much to be complained of. The chief fault is that many of them are underground, and not calculated to place the workmen in the most healthy conditions for their hot, close, and confined work. They have all been thoroughly and regularly kept under supervision as to cleanliness, &c., during the year.

Objection to Private Slaughter Houses in Large Towns.

It would be well if one could speak with equal satisfaction of the Slaughter Houses of the Borough. The existence of private Slaughter Houses in the midst of a densely-crowded population is from a sanitary point of view, bad in many ways; and it is to be hoped that ere many years are gone, those at least which are the most objectionable in the town will be abolished. It would be wearisome to repeat here what has been referred to at length in former reports. So long as private slaughtering places exist, so long will there always be the possibility, of unscrupulous men killing and dressing for food, animals in a more or less diseased condition, such as would be at once detected, were they during life passed under the scrutiny of an Inspector. Of the nuisance arising from the constant bringing of cattle, sheep, and other animals into the yards and pens, often hemmed in by houses, and with most unsuitable approaches, the dealing with large quantities of blood, offal, manure, &c., repetition is needless. The advantages of public over private Slaughter Houses is well summed up thus:—"Supposing the private Slaughter House to be by position, construction, &c., in every way equal to public abattoirs, the latter are more convenient for the enforcement of -laws for prevention of cruelty, cleanliness, &c., and afford greater facilities for the detection of diseased animals. Private Slaughter Houses are often situated in the midst of a dense population; they may have been originally constructed for other purposes, or under conditions very different to those now existing, so that now, the approaches thereto are bad, the places themselves, with insufficient light and ventilation, lairs not properly separated from the Slaughter House itself, or from surrounding dwellings. Sometimes the slaughtering, and subsequent operations, are visible from the public roads, and children and others gather to see the killing. Frequently there are no proper arrangements for prompt removal of filth and offal. In a public establishment all these faults can be avoided; the place would be away from dwellings, well lighted, paved, drained, &c., with every convenience for strict cleanliness and decency. The meat is all the better where the arrangements are such, that the animal can be taken quietly to the place of slaughter, without being over-driven or terrified, and the carcase can be hung up to set in a clean, airy place."

During the year, the owner of one Slaughter House, situate in Belgrave Gate, was prosecuted for permitting a small room over it to be used as a workshop, and fined £10 and costs. In connection with the same Slaughter House, a petition was received from the surrounding inhabitants asking for the abatement of nuisance and annoyance in connection with the work carried on there; a summons was issued against the offending butcher, but was not proceeded with owing to some technical difficulties connected with it.

Removal of Butchers' Refuse.

One other matter in connection with the Slaughter Houses has occupied the attention of the Sanitary Committee during the year. Hitherto, for some time past, an arrangement has existed between the Committee and the butchers whereby the manure, offal, &c., of those who desired it was removed by the Corporation Scavengers. The result was, that whenever complaints were made by the Inspectors as to the accumulation of filth, or the dirty condition of any premises, it was sought to throw the blame upon the Scavengers. In October last, this arrangement came to an end, and the whole of the butchers were called upon to remove their own refuse; and at the present time, by co-operating amongst themselves, they have established a system of regular collection and removal of this objectionable material, which up to the present time has been done in a fairly satisfactory manner.

The Cowsheds and Dairies of the town have been kept well under observation. Many of the former are, from their situation or construction, not the best that could be wished for, but a stringent examination is now made as to the suitability of any new premises registered for keeping and housing milking cows. These applications, however, are not numerous, and the tendency the past few years is to their diminution rather than increase—much of the milk supply being brought from farms and dairies situate outside the Borough. The need for powers when necessary to inspect and visit dairies and milking cows situate outside any health authority's jurisdiction, but which supply milk to such authority's district, is recognised and given effect to in "The Prevention of Infectious Diseases Act of 1890."

Supervision of Dairies.

Sewerage and Flood Works.—These extensive engineering undertakings upon which so large an expenditure has been incurred, are fast approaching completion. The flood works are practically finished, and there now exists a wide and deep channel for the flow of the river from end to end of the borough, such as will, in the future, effectually prevent flooding of any part of the town. From the West Bridge, away, almost to the railway arches, by the Gas Works, is a straight cutting, flanked by substantial brick and stone work. Across this, two new iron bridges with brick and stone piers have been constructed in place of the old canal bridges. A new temporary footbridge (which is eventually to be replaced by a permanent one for foot and vehicular traffic) connects the Newarke with Braunstone Gate, whilst a larger and improved structure in place of the old West Bridge is now in course of construction.

Effect of Flood Works on Public Health.

From a public Health point of view one of the most important and beneficial effects of these flood works, will be permanently to lower the level of the sub-soil water throughout the whole of those districts bordering on the river, rendering the soil more dry and healthy. It has frequently been demonstrated that Phthisis and Rheumatism have dimished in prevalence after operations which have produced a drier condition of the subsoil upon which human habitations are built.

From the following description of the works connected with the New Sewerage Scheme (supplied from the office of the Borough Surveyor) it will be seen that much progress has been made during the year.

New Main Sewers.—The construction of the new main sewers has again made considerable progress during the past twelve months. The main outfall sewer along the Belgrave Road, Syston Street to the Melton turn, across the Round House from Meadows, and under the canal and river to the new Pumping Station, with a branch along Abbey Park Road as far as the canal Bridge is completed, and consists of 2,200 lineal yards of brick and iron pipe sewers, varying in size from 7ft. 3in. by 6ft. 3in. to 3ft. by 2ft., the portion under the canal and river consisting of a 5ft. circular iron pipe surrounded with concrete. The contract for the main sewer from Watling Street, along Canning Street, Sanvey Gate, Bath Lane, etc., to new Bridge Street, with a high level main sewer from the Newarke, along Grange Lane, Infirmary Road, Lancaster Street as far as the railway bridge is in progress, and consists of 6,021 lineal yards, or 3·4 miles of brick and pipe sewers, varying in size from 6ft. 3in. by 4ft. 2in. to a 6in. circular pipe. The amount of this contract is £28,342 12s. 3d., and the contractors, Messrs. S. & E. Bentley, of Leicester.

Besides the above-mentioned, the following works, consisting of main sewers in addition to those included in Mr. Gordon's scheme), have been carried out during the past year: a sewer along New Park Street, Braunstone Gate, and West Street, varying in size from 3ft. 6in. by 2ft. 4in. to 3ft. by 2ft. for the drainage of the district between the River Soar and the Narborough Road, from Braunstone Gate, southwards.

A sewer 4ft. 6in. by 3ft. along the road from Braunstone

Gate Bridge, Western Boulevard, and under the canal by a 3ft. diameter iron pipe to Mill Lane, for the drainage of the district on the western side of Asylum Street, and the Corporation Estate lying on the Eastern side of the canal.

An extension of the Dane Hills main sewer along the Hinckley Road, consisting of a 3ft. by 2ft. and 2ft. 6in. by 1ft. 8in. brick sewer as far as the Kirby Road, to drain the district between the Hinckley and Kirby Roads, now being developed by the Leicester Real Property Co.

A storm overflow sewer along Briton Street, from the river to the Narborough Road, consisting of a 3ft. 6in. diameter sewer for the eventual relief in times of heavy rainfall of the Narborough Road sewer, when the district is fully built on.

Extensive alterations to the main sewers have been carried out upon the London Road at the Railway Bridge, necessitated by the proposed new Station of the Midland Railway Company. The old sewers detoured round the bridge, and consisted of flat bottom culverts, whilst the new sewers consist of three lines of iron pipes 2ft. 6in. diameter, taken straight through, without syphon at a level of about 6ft. below the rail level, which will cost nearly £3,000.

The accompanying table is in continuation of similar details given in former years.

Sewer Construction, Cleansing, &c., during 1890, and since 1881.

Length in yards of new Foul Sewers.	Length in yards of new Storm Sewers.	Length of old Sewers [in yards] opened up and cleansed, and provided with inspection shafts.
During 1890 *3,720	*2,939	nil
From 1881 to 1889 ... 27,024	30,499	34,143
Totals 30,744	33,438	34,143

**Exclusive of New Main Drainage Works, as per Mr. Gordon's scheme.*

Sewage Farm.—About the end of September last, sewage was, for the first time pumped on to the Beaumont Leys estate, and a brief description of this large and important sanitary work may be of interest. The new Sewers of the Borough will convey the Sewage to the new pumping station situate a little lower down the river than the old works, where for years so much time, labor, and money has been expended in attempting to deal with the Sewage of the town by chemical means. From this pumping station powerful engines, capable of dealing with more than ten million gallons daily, will pump the raw Sewage through two large iron mains, up to the highest point of the farm, a distance of something more than a mile. It is then, by gravitation, distributed on the broad irrigation principle over the land, the effluents ultimately finding their way on one side into the Ansty Brook, on the other side of the Farm into the River Soar. Seeing than no less than 1370 acres of land are now in possession of the Corporation, it is hoped that notwithstanding the unfavourable character of the soil, an efficiently purified effluent will be obtained, and that the pollution of the river, which for years has been an unmitigated nuisance, will soon become a thing of the past. Fortunately, if it should be found necessary to supplement the simple irrigation by other methods, such as downward filtration, it has been discovered that there exists some thirty acres of land upon the farm, of suitable soil, overlying pure sand, where excellent filtration beds can be made, capable alone, of dealing with the sewage, after chemical precipitation, from a population of more than 150,000 persons.

Description of New Works.

Soon after pumping operations were commenced, complaints were made of fouling of the Ansty Brook, but this was due to exceptional circumstances, which as the farm becomes put in order are rapidly being remedied, and it is believed will not occur again.

It has been thought in the past, and is still held by some, that a sewage farm, in addition to solving the problem of the disposal of the Sewage of a large community, may be made a source of profit.

Berlin Sewage Farm.

In August last your Officer of Health had an opportunity of thoroughly inspecting the large sewage Farms of Berlin, one of the most extensive and successful of these undertakings anywhere in Europe. Situate, as the German Capital is, in the centre of a vast sandy plain, the conditions for success are unique. Upwards of 16,000 acres of this sandy soil are in possession of the Municipality of Berlin. To this, at a distance of ten or twelve miles from the city, the whole of the sewage is conveyed from a population of more than one-and-a-half million persons. From a sanitary point of view, its success is complete, a perfectly clear, inodourous, and non-putrescible effluent is obtained, not to be distinguished, by the senses, from clear spring water. Crops of all kinds are grown in luxuriance, and the cost of labour is low, as work is found upon the farms for many of the poor, and unemployed, of the Capital, and yet, up to the present time, the income derived therefrom scarcely balances the expenditure, let alone sinking fund and interest on capital, &c., although it is pretty confidently predicted that ere long a profit will be shown upon the ordinary working expenses.

No profit from Farms.

Leicester, therefore, need not be disappointed, if it finds that its Sewage Farm is, for some years to come, a source of loss from a purely financial standpoint, and if it succeeds in grappling successfully from a sanitary point of view with its Sewage problem, and all its attendant difficulties, at a reasonable annual cost to the rates, all that can fairly be expected, will have been accomplished.

Disposal of Ashes, Destructor.—The erection of a "Destructor," to deal with the ash-pit and dry refuse of the town has been completed during the year, and began its work some weeks before Christmas, and is now in daily operation. The apparatus has been designed and erected by Messrs. Manlove and Elliott, of Nottingham, and has cost in all upwards of £6000. The site selected is Charnwood Street, and hitherto the work has been carried on without causing annoyance or nuisance to the neighbourhood; this fact is to be emphasized, as fears were at one time expressed, as to what would be the result of

Successful working of Destructor.

placing it in the midst of a very populous district. Seeing how rapidly the present available "tips" for the disposal of ash-pit refuse are becoming used up, the provision of similar destructors in other districts will, ere long, have to be considered.

Disposal of Nightsoil.—Now that the extensive and costly scheme for the proper and effective sewering of the Borough is approaching completion, and the Sewage Farm has commenced operations, one of the most desirable reforms to which the Sanitary Committee will, doubtless, turn its attention, is the need for abolishing, with as little loss of time as may be necessary, the system of disposal of the excreta of the town by means of "the pail system." This system, admittedly a great improvement upon the vile middens and cesspits of former days, has been fairly tried, but, for the needs of a densely-crowded town-population, has been found wanting. These pails, placed as they too often are within a few yards only of the houses, in courts and yards, hemmed in by dwellings, &c., with but little fresh air blowing through them, are liable to become a nuisance; and when, as we hope will shortly be the case, the town is provided with a good system of sewers, an ample water supply, and a large Sewage Farm, this objectionable method should be steadily replaced by the more cleanly system of water carriage.

Pail system objectionable in dense populations.

Smoke Nuisance.—Common observation is sufficient to show, that in Leicester, we do not suffer from a black pall of smoke, above our heads, so common in many manufacturing towns, but it is only by constant vigilance that the nuisance from smoke is kept within reasonable bounds. During the year several offenders have been brought before the Sanitary Committee and cautioned, and in two cases prosecutions were instituted. Probably few things have exercised the powers of inventive genius more than methods for the prevention of smoke arising from the combustion of coal, and several inventions now in every-day operation, appear to have successfully grappled with the problem in a practical manner. When once this fact has become established and recog-

Comparative freedom from smoke.

Invention for Smoke Prevention.

nised, the smoke nuisance, so far as it arises from manufacturing industries, should become a thing of the past. One of the most recent and apparently one of the most successful is that known as "Elliott's Smoke Annihilator," which for some months has been on view in London, at work on the Thames Embankment and other places.

Registration of Plumbers.—Amongst matters, which, without attracting much public attention, or affording scope for any sensational agitation, has a useful sphere of operation, is "the Registration of Plumbers," a movement which, during the year, has become thoroughly established in Leicester. This, if it continues to proceed on the lines laid down by the Worshipful Company of Plumbers, with whom it originated, is calculated to have no insignificant bearing upon the health and sanitary well-being of a large section of the public. For a long time past one of the worst features of the average town house has been the hidden plumbing work and all that belongs to it. Often bad in original construction and design, the dangers are intensified by defective and scamping workmanship. To remedy this, the above Company have organized a system of registration for plumbers, thus giving the public a ready means of knowing whether a man who undertakes work of this nature is properly qualified to do it. The movement has spread to all parts of the kingdom, and in most of the large towns local centres have been established for the furtherance of this object. Such useful action on the part of an old City Guild will go far to disarm the hostility often expressed towards them, as obsolete and useless survivors of a bygone age, using money and funds to purposes for which they were never intended.

Dangers from bad plumbing.

Sanitary Legislation in 1890.—The Parliamentary Session of 1890 was by no means barren in useful Sanitary legislation. Some of the measures now added to the Statute book are among the most important that have recently been passed. The chief of these are "The housing of the Working Classes Act," which has already been referred to in this report, "The Working

Classes Dwellings' Act," which facilitates gifts and legacies made for the purpose of providing dwellings for the poor in populous towns. "The Infectious Diseases (Prevention) Act," which has also been referred to (p. 17), "The Public Health Amendment Act," which confers useful and desirable powers upon Sanitary Authorities, in protecting and safeguarding the Public Health. Amongst the provisions contained therein may be cited—powers to restrict the discharge into public sewers of any injurious substances, super-heated water, steam, etc., when likely to create a nuisance; to provide public Sanitary conveniences; the more efficient control over privies, closets, etc; and to prevent the fouling or blocking of streams, etc. This Act, like the preceding one, is permissive only, but all or parts thereof may be adopted by any Local Authority by simply giving notice that such Authority intends putting it into force. The necessary notices have been given in Leicester for bringing it into operation during the ensuing year.

Adoption in Leicester of New Acts.

Smaller measures were—"The Allotments' Act, which transfers to County Councils, powers to put in force the Act of 1887 relating to Allotments, where the Local Sanitary Authority shall be in default or neglectful; and "The Open Spaces Act," a short Act to facilitate the use of lands held upon Trust for the purpose of open spaces.

Amongst proposed measures which failed to become law were "The Midwives' Registration Bill," and one for the Protection of Infant Life and the Restriction of Insurance upon the Lives of very young Children. Enquiry into this subject was referred to a Select Committee of the House of Lords, presided over by the Bishop of Peterboro', which Committee has not yet completed its labours. Another subject referred during the past Session to a Royal Commission was that of the Transmission of Tuberculosis from animals to man by means of food, etc. This Committee was charged to enquire and report, what is the effect, if any, of food derived from Tuberculous animals on human health; and if predjudicial, what are the circumstances and conditions with regard to the Tuberculosis in the animal, which produces that effect upon man.

Enquiry into Tuberculosis.

This enquiry is one of the utmost importance, and it is to be hoped, that the information obtained, may tend to place our knowledge of this subject upon a more satisfactory and scientific basis. In former of these Health Reports, the matter has been treated at some length. The conclusions from this investigation will be looked for with much interest by all those who are charged with safe-guarding the health of the community at large.

Work of the Sanitary Inspectors.—During the past year the work of the Sanitary Department has been a little disorganized, owing to several important changes in the staff.—Not that any really necessary work has been neglected, but work of a more general character has necessarily been somewhat curtailed.

Change of Staff.

Early in the year, Mr. Allen, who for the last nine years has very ably filled the office of Chief Sanitary Inspector as well as Building Inspector, was promoted to be Assistant Borough Surveyor. In October, Mr. Braley, who for eighteen years has been one of the sub-inspectors was appointed to the vacancy. His report, which is given below, shows that the Sanitary Inspection of the town, and the work done in connection therewith has been the means of removing and remedying a vast amount of actual and possible nuisance or unhealthy conditions. A thorough and complete house to house inspection of the Borough has been set on foot with the new staff, and wherever it is deemed desirable, the smoke test is applied to the house-drains, etc., for the purpose of detecting any hidden defects. This mechanical means of testing drain connections is now most extensively used by our Inspectors,

Free House Inspection.

both in the above work and in connection with the enquiries made at those houses where infectious disease is reported to be present, and the Sanitary Committee is ready to place this machine, free of cost, at the disposal of any householder who may so desire. In this respect Leicester is well in the van of Sanitary progress, for in many other towns such complete testing and examination of house property can only be obtained at a considerable pecuniary cost to the owner or tenant.

Chief Inspectors' Report upon the Work of the Sanitary Department during 1890.

——::——

TO THE MEDICAL OFFICER OF HEALTH.

Sir,—I beg to submit the following report of work done by the Inspectors in the Sanitary Department during the year 1890. The appended tables shew the number and the nature of nuisances abated.

I am, Sir, your obedient servant,
FRANCIS BRALEY, *Cert. San. Inst.*,
CHIEF INSPECTOR.

18th February, 1891.

REPORT FOR 1890.

The smoke test has been applied to 414 houses and premises, and 279 escapes of sewer gas have thus been discovered, many of which without its aid would have remained undetected. It has also been useful in testing new work before being covered up.

The Common Lodging Houses have been frequently visited by day and night, and the Inspector's Reports shewed them to have been clean, and, with few exceptions, fairly well conducted. During the year, another "Model" Lodging House has been added to the list. This Lodging House is situate in Bedford Street; its rooms are lofty, well lighted, and ventilated, and being built expressly for the purpose, is admirably adapted to accommodate the 107 lodgers for which it is registered.

The number of registered Slaughter Houses within the Borough is 67, as against 68 in 1889; the one in York Street having been demolished, and a warehouse built on its site. The Slaughter Houses are frequently visited, and reported on by the Inspector (Mr. Coles). The refuse from 57 of them is now removed daily by the owners or occupiers.

The number of Canal Boats on the Register is 89, as against 86 in 1889. During the year, 134 boats found plying on the Canal within the Borough have been visited by the Inspector (Mr. Pearce), and no case of infectious disease has been found upon any of them.

There are 77 registered Cow-sheds in the Borough, only 49 of which are in use, and these, although affording accommodation for 445 cows, are occupied by only 339. The Cow-sheds, Dairies, and Milk-shops have been regularly visited by the Inspector, and precautions taken to ensure the cleanliness of the vessels used for containing milk. During the year, two Cow-sheds have been registered, and three taken off.

During the year, 7483 Houses have been inspected. There are still 9500 ash-pits in the town, the most objectionable of which are being abolished, and portable dust-bins substituted; the contents of the latter are emptied weekly, and thus removed before decomposition sets in. 7071 ash-bins are now in use in the Borough; in 1889, the number was 5792.

There are 30 Public Urinals and 2 Closets, exclusive of those on the Public Parks and Recreation Grounds; all are in good condition, and cleansed daily, disinfectants being freely used where necessary.

There have been 13 prosecutions during the year, viz. :—3 bad meat cases, 1 unwholesome fish, 3 cases under the sale of Food and Drugs Acts, 2 offences under the Bye-laws relating to Common Lodging Houses, and 4 for sending forth black smoke in such quantities as to be a nuisance.

In addition to the above, 5 persons have been cautioned by the Committee in connection with samples purchased under the sale of Food and Drugs Acts.

TABLE,

Shewing the Localities of Sewer Gas Escapes.

Into Breakfast Rooms, Sitting Rooms, and Dining Rooms	7
,, Houses from rat holes	3
,, Kitchens and Sculleries	17
,, Basement Kitchens and Cellars	22
,, Pantries	4
,, Lobbies and other parts of Houses	5
,, Internal Water Closets	10
,, Workrooms	1
,, External Water Closets	54
,, Yards, from around badly set gullies, defective drains, etc.	103
From external and unventilated soil-pipes... ...	19
From heads and joints of downright rain water pipes	28
From untrapped rain water cisterns	6
Totals	279

In connection with Infectious Disease Inspection, the following defects were found, either in the houses referred to in the certificates or in the houses, closets, etc., in the same yard.

Defective and foul ashpits	54
,, Manure Pits	2
,, and dilapidated Closets	53
,, and choked Drains	38
,, and unventilated Soil Pipes	4
,, Urinal, Bath, and Lavatory Wastes	21
Foul back and defective shafts to Sinks	24
Sink Wastes connected direct	8
Foul and defective rain-water Cisterns	7
Filthy, dilapidated, and damp Houses and Workshops	85
,, Closets and Passages	2
Defective Paving	46
,, untrapped, and badly set gullies to sink drains	27
,, Cellar Drains direct to Sewers	3
Escapes of Sewer Gas into	
External Closets	9
Cellars	5
Living Rooms and Scullery	3
Yards, from defective Drains, badly set gullies, rain-water pipes connected direct	11
Total	402

STATEMENT A.

Shewing the Work done by the Sanitary Inspectors during the Year 1890.

		Number of Visits.
House to House Inspections—		7483
Special Inspections and Investigations of Complaints		12,688
Re-inspection, to ascertain the progress of Sanitary and informal orders		7621
Visits in connection with Contagious Diseases		3553
Visits to Common Lodging Houses	Day 580 Night 475	1055
Visits to Bakehouses		851
Visits to Canal Boats (Inspector Pearce		134
Total number of inspections		33,385

			Nos.
Samples of Food, etc., purchased for Analysis under the Adulteration Act			164
Examples of Well Water taken			11
Observations for the purpose of Smoke Prevention			2982
Stacks reported for Smoke Nuisance			28
Houses disinfected by the Sanitary Staff			455
Schools	do.	do.	11
Notices sent to Schools and Public Libraries			1125
Swine reported to Medical Officer of Health			300
Filthy Houses	do.	do.	37
Dilapidated Houses	do.	do.	...
Prosecutions under the Public Health and Local Acts			9
Do.	do.	Food and Drugs' Act	3
Houses to which Smoke Test applied			414

STATEMENT B.

Shewing Work carried out under Formal and Informal Orders during the Year 1890.

	No. of Orders.
To abolish Manure-pits and Ash-pits	350
,, repair do. do.	32
,, erect new do. do.	4
,, provide Ashtubs or Binns	700
To abolish Privies	18
,, ,, Privy Cesspools or Vaults	12
,, ,, Pail Closets	25
To erect new Water Closets	86
,, ,, ,, Pail Closets	20
,, repair, alter, or re-build Closets	83
,, fix Closet Hoppers and Syphons	49
,, fix Flushing Apparatus and lay on Water Supply	23
,, repair do. and do.	70
,, provide pails	5
To alter and ventilate Soil Pipes	100
,, fix ventilated Syphons	112
,, lay new Drains	33
,, relay or repair defective drains	249
,, clear choked drains	245
To abolish Cisterns and fill up cover Wells	6
,, cleanse or repair Cisterns	75
To fix lead or iron Sink Wastes	262
,, fix Traps or Gullies	469
,, reset Traps or Gullies	102
To erect, alter, screen, or repair Urinals	85
,, repair, re-hang, or provide New Doors for Closets and Dwellings	64
,, repair, renew, and make good spouting	117
,, cleanse and limewash Closets and Passages	213
To pave Yards and Passages or repair paving	488
,, provide new, or relay and repair Floors	162
To repair roofs	185
To cleanse and limewash Houses	560
,, cut off, take up, and stop old drains	67
,, remove Manure and offensive matter	4
To remove Animals kept in such a condition as to be a nuisance	208
To alter Chimneys and Miscellaneous	248
Total	5531

N.B.—More than three-fourths of these were informal orders.

STATEMENT C.

Shewing the number of Offensive Trades carried on, and Registered and Licensed Premises within the Borough requiring the attention of the Inspector.

DESCRIPTION OF TRADE.	No.
Slaughter Houses	67
Tripe Houses	29
Common Lodging Houses	27
Bakehouses	180
Cow Sheds	77
Milk Sheds and Dairies	191
Tallow Melters...	2
Chemical Works	2
Carpet Beating Works...	1
Fellmonger	1
Leather Dresser	1
Bone Boiler	1
Soap Boilers	3
Knacker's Yard	1
Total	583

STATEMENT D.

Shewing the number of Visits made by the Inspector of Meat, and the quantity of Meat, etc., condemned during the year 1890.

Number of visits to Slaughter Houses	7324
Do. Cowsheds, Dairies and Milkshops	5883
Do. Cattle Market...	204
Total	13,411

MEAT, ETC., CONDEMNED AND DESTROYED.

	Tons.	Cwts.	Qrs.	Lbs.
Meat	3	16	3	17
Fish	15	14	0	12
Fruit		3	0	26
Cheese		4	0	0
Butter		4	0	0
Hams		9	0	0

Poultry and Game ...	329 head
Rabbits	334 ,,
Oysters	1800

SUMMARY OF VITAL AND MORTAL STATISTICS, &c., FOR 1890.

Area of Borough.—3030 acres, divided into seven wards, of which the sixth, or West St. Mary's, comprising more than one-third of the whole Borough, is in great part as yet unoccupied by buildings; whilst in the first, the third, and the fourth wards, the land is almost entirely built over.

Population.—154,344, by the Registrar-General's estimate in the middle of the year *(most probably over-estimated).*

Density.—50 persons per acre; but in parts more than double this.

Inhabited Houses.—30,175 (estimated number).

Rateable Value.—535,706, at Michaelmas.

Marriages—1276. The marriage rate for the year, 16·5 per 1000 of the population.

Births.—4697; the birth-rate for the year being 30·4 per 1000.

Vaccinations.—131, of which 119 were performed by private practitioners, and 12 by public vaccinators.

Deaths.—† 2799. Death-rate for the year, 17·8 per 1000.

Infantile Mortality.—203 deaths per 1000 births.

Zymotic.—Death-rate, 2·1 per 1000.

Increase of Population.—(Estimated) 3824, but the natural increase, or excess of births over deaths, was only 1898.

---

† *This number is for* 53 *weeks. The death-rate is calculated for* 52 *weeks, in unison with other years.*

PART II.

VITAL AND MORTAL STATISTICS.

Population and Area.—It was hoped that this year, by aid of the census returns, an accurate statement as to the population of the Borough would have been available for the purposes of these statistics. As, however, the result of the census enumeration will not be known even in general terms for another month or two, the Registrar General's estimate has had to be used. By this estimate, the population of Leicester in the middle of 1890 was 154,344, most probably an excess of the actual numbers.

Density of Population in Borough.

The acreage of the Borough is, as hitherto, 3030 acres; but this will, no doubt, be the last year of its present area, as the proposed addition to the Borough will quadruple this. The average number of persons to the acre is about fifty, but many acres in the town are entirely unbuilt upon, whilst other districts are completely covered with buildings, and have double or treble that number of persons living upon an acre of ground.

The natural increase of population last year—*i.e.*, the excess of births over deaths—was 1898, whilst the total increase (by the above estimate of the Registrar General) was 3824, which would require an influx to the town of 1926 persons from other places, in excess of those, who during the year left the Borough—an estimate so far as can be ascertained considerably beyond the true figures.

Inhabited Houses and Rateable Value.—From data obtained in the Borough Surveyor's Office, it appears that 543 new houses were erected in 1890, from which it is estimated that there are now some 30,175 Inhabited Houses. *(See Table I.)*

TABLE I.

Shewing the Population, Inhabited Houses, Marriages, Births, and Deaths, for the Year 1890, and ten years preceding.

The year.	Estimated Population.	No. of Inhabited Houses.	Marriages.	Registered Births.	Corrected number of Deaths.			Deaths in Public Institutions.
					Total all ages.	Under one year.	Under five years.	
1890.	**154,344**	***30,175**	**1276**	**4697**	**†2799**	**958**	**1263**	**271**
1880	120,325	24,794	1179	4860	2960	1070	1727	
1881	123,120	24,974	1153	4711	2654	965	1374	
1882	126,275	25.511	1201	4855	2528	942	1297	
1883	129,483	25,818	1207	4823	2484	913	1271	
1884	132,773	25,937	1152	4851	2937	1133	1615	
1885	136,147	26,794	1114	4682	2641	907	1315	
1886	139,606	*26,934	1222	4858	2738	1052	1383	265
1887	143,153	*27,558	1169	4689	2722	1011	1407	306
1888	146,790	*28,417	1138	4787	2640	980	1335	320
1889	150,520	*29.407	1211	4789	2513	1004	1276	270
Average of ten years, 1880-1889	134,819	26,614	1174	4790	2682	997	1400	

Note a.—Population at census 1881 was 122,376.
„ b.—Area of present Borough in acres 3030.
Note c.—Number of inhabited houses at census 24,974.
„ d.—Average number of persons per house at census 4·9.

* *The number of Inhabited houses in these years is estimated from data in Surveyor's office. In previous years the figures have been supplied by the Overseers.*

†*N.B.—The 2799 deaths are for 53 weeks in 1890. In order to form a comparison with previous years allowance must be made for this, and the death rate for the year is therefore calculated for 52 weeks in Table II., etc.*

The rateable value of the Borough at Michaelmas last was £535,706, an increase of £13,397 over the preceding year.

Marriages.—The past twelve months again shews an increase in the number of Marriages contracted in the Borough. Prior to 1889, there had been a downward tendency. During last year, 1276 Marriages were registered, a larger number than in any year during the previous decade, and is equal to a Marriage-rate of 16·5 per 1000 of the population. *(See Table I.)*

Increase of Marriages.

Births.—Since the year 1876, the Birth-rate of the whole country has shewn a steady decline, and this decline has continued through last year, reaching only 29·7 per 1000 amongst a population estimated at nearly 29½ millions of people. In the twenty-eight great towns of the kingdom, the Birth-rate was 30 per 1000. The towns with the lowest Birth-rates last year were, Brighton 23·2, Nottingham 24·9, and Bradford 25·6, whilst it ranged as high as 36·1 in Preston, 38·7 in Cardiff, and 39·8 in Newcastle. In Leicester, the Births registered, were 4697, giving a rate of 30·4, the lowest recorded here for many years *(see Tables I. and II.)*; of these births, 2364 were males, and 2333 females, of which 206 were registered as born out of wedlock, being a considerably less number of illegitimate births than in some previous years.

Decline of Births, both in Borough and in England.

Vaccination.—From returns furnished by the Clerk to the Guardians, it appears that Vaccination has still further declined in Leicester, and may now be considered to have reached its lowest ebb. Only 131 children were vaccinated in the whole year, 12 of these being by the Public Vaccinators, and 119 by the private Medical Attendant.

Decline of Vaccination in Leicester.

Until the result of the Vaccination Enquiry, at present going on before the Royal Commission is known, this state of things will probably now continue in Leicester, unless in the meantime an epidemic outbreak of Small-pox should occur in the town, when under the influence of panic (as has before happened) thousands will, doubtless, wish to have protection afforded them by its means.

TABLE II.

Shewing the Annual Birth and Death Rates, Death Rates of Children, and proportion of Deaths in Public Institutions, in a Thousand Deaths, for the year 1890, and ten years preceding.

In Year.	Birth-rate per 1000 of the Population.	Death-rate per 1000 of the Population.	Deaths of Children under 1 year per 1000 of Registered Births.	Deaths of Children under 1 year per 1000 of Total Deaths.	Deaths of Children under 5 years per 1000 of Total Deaths.	Deaths in Public Institutions per 1000 of Total Deaths.
1890	**30·43**	**17·79**	**203·7**	**342·2**	**451.2**	**96·7**
1880	40·39	24·70	220·1	360·3	581·6	
1881	38·26	21·56	204·8	363·2	517·7	
1882	38·44	20·05	194·4	372·6	513·1	
1883	37·24	19 18	190·7	367·5	511·6	
1884	36·53	22·12	233·5	381·6	543·9	
1885	34·38	19·39	193·5	343·4	513·8	
1886	34·80	19·61	216·5	384·2	505·1	96·7
1887	32·75	19·01	215·8	371·7	516·9	112·4
1888	32·61	17·98	204·7	371·2	505·7	121·2
1889	31·81	16·68	209·6	399·5	507·7	107·4
Average of ten years 1880-89...	35·72	20·02	208·3	371·5	521·8	

In January last, on the motion of Mr. Councillor Biggs, a resolution was passed by the Council in the following terms:—"That in the opinion of this Council, it is inexpedient and unjust to enforce vaccination under penalties upon those who regard it as undesirable and dangerous," and it was further resolved that this resolution should be laid before the Royal Commission, and supported by members of the Council, Magistrates and others, who had had experience of the working of the Vaccination laws in Leicester.

Resolution of Council sent to Royal Commission.

Deaths and Annual Death-rate.—The Deaths of the Borough last year, for 53 weeks, were (after correction) 2799 in number; the correction consisting of the *exclusion* of those patients dying in the Leicester Infirmary and the County Asylum, who had been brought from the outside districts, a total of 96, and the inclusion of those Leicester patients who died at the Fever Hospital and the Borough Asylum, 55 in all; these latter institutions being situate outside the present boundaries of the borough, the deaths therein are not included in the local registers.

The Death-rate, calculated for 52 weeks, was only 17·79, an increase of 1·11 on the unprecedently low rate of the previous year.

Death-rate for 1890.

Judged by comparison with other large towns, and with the country at large, this is a highly satisfactory record. In all England and Wales the death rate last year was 19·2, an increase of 1·3 per 1000 on the preceding year, whilst in the twenty-eight large towns it was 21·3, (see Table III), amongst which Leicester, bracketed with Brighton, stands second. With the exception of the year 1889 this is the lowest mortality recorded, and is 2·23 per 1000 below the average mortality of the last ten years (see Table II).

TABLE III.

Death-rate of the large English Towns during each of the past Six years.

	1885.	1886.	1887.	1888.	1889.	1890.
28 large Towns	**20·5**	**20·9**	**20·8**	**19·4**	**19·3**	**21·3**
London	19·7	19·9	19·6	18·5	17·4	20·3
Brighton...	17·1	17·1	16·9	16·1	15·1	17·8
Portsmouth	19·7	33·8	19·5	18·8	18·1	19·6
Norwich	20·3	23·3	20·4	20·2	18·4	21·1
Plymouth	22·3	23·5	22·7	22·3	25·2	22·4
Bristol	19·7	19·3	20·4	16·9	17·6	19·2
Wolverhampton	20·2	22·2	21·7	20·7	20·6	21·8
Birmingham	19·3	19·9	19·7	17·8	18·7	20·7
Leicester	**19·4**	**19·6**	**19·0**	**17·9**	**16·7**	**17·8**
Nottingham	19·9	20·4	18·7	17·3	17·0	16·5
Liverpool	23·8	23·8	23·7	20·3	21·6	23·6
Manchester	26·5	26·3	28·7	26·1	26·7	30·6
Salford	21·1	22·1	22·2	21·1	20·5	22·4
Oldham	22·0	22·8	23·8	20·3	20·4	21·2
Bradford	17·7	19·2	19·9	17·1	19·2	20·4
Leeds	19·9	21·9	21·1	20·6	22·1	22·6
Sheffield	20·7	19·8	21·6	20 5	20·9	24·9
Hull	17·2	18·8	19·3	16·4	20·3	19·2
Sunderland	23·8	19·5	19·7	18·1	22·9	22·7
Newcastle	26·1	22·2	25·3	20·6	25·2	25·9
Derby	18·1	18·2	17·1	16·3	16·4	18·5
Birkenhead	19·5	19·1	21·0	17·8	17.8	19·7
Bolton	20·8	23·1	21·3	21·6	22·0	25·8
Blackburn	21·8	25·5	25·5	23·9	25·5	23·5
Preston	27·1	28·9	27·9	23 9	30·0	27·4
Huddersfield	20·1	19·6	23·0	18·5	18·8	19·0
Halifax	19·7	22·7	21·0	19·4	21·6	22·5
Cardiff	25·7	22·6	21·9	20·5	19·5	20·8

Mortality at different Seasons.—The second quarter of the year had a considerably lower mortality than the other three, and shows a greater contrast than usual in this respect.

	1890.	1889.	1888.	1887.	1886.
First Quarter	752	663	743	712	658
Second ,,	569	549	615	570	588
Third ,,	711	699	647	782	829
Fourth ,,	767	602	635	658	663
Totals ...	2799	2513	2640	2722	2738

The explanation is two-fold. In the first quarter there was concurrently with, and no doubt indirectly related to, the epidemic of influenza then existing, an excess in the mortality from respiratory diseases, whilst in the third quarter, which, usually, in Leicester, shows an excess, over the other seasons of the year, from the large infant mortality by Diarrhœa, the deaths were comparatively low, this being due to the fact that the annual epidemic of diarrhœa was late in its onset, and extended on into the fourth quarter of the year.

Leicester compared with other towns.—As stated above, on comparing ourselves with other towns, and with the country at large, Leicester comes out very well. In the death-rates, as recorded by the Registrar General (see Tables III. and IV.) Leicester is bracketed with Brighton—second on the list—with a rate of 17·8 per thousand, Nottingham being first with 16·5, whilst it mounts up to no less than 27·4 in Preston, and 30·6 in Manchester. If the infantile mortality of the Borough, which is still excessively high, could but be permanently lowered, to the average of some other manufacturing towns, Leicester would have no difficulty in taking the first place upon the urban health-roll of the country. When we come to speak of the infantile mortality of the past year, it will be found there is a slight improvement to record with respect to this, the one weak spot in our mortal statistics.

TABLE IV.

Recorded and corrected Death-rates, in 28 large English Towns during 1890.

Towns in order of their Corrected Death-rate.	Recorded Death rates per 1000 per annum.	Corrected Death rates per 1000 per annum.	Comparative Mortality Figure.
England and Wales ...	19·2	19·2	1000
28 large Towns	21·3	22·7	1186
Nottingham	16·5	17·5	910
Brighton	17·8	18·3	953
Leicester	17·8	18·6	968
Derby	18·5	19·2	1003
Hull...	19·2	19·9	1035
Bristol	19·2	19·9	1036
Norwich	21·1	20·1	1050
Portsmouth	19·6	20·2	1052
Huddersfield	19·0	20·8	1086
Birkenhead	19·7	21·1	1097
London	20·3	21·5	1123
Birmingham	20·7	22·1	1153
Plymouth...	22·4	22·2	1157
Wolverhampton	21 8	22·5	1172
Bradford	20·4	22.5	1174
Cardiff	20·7	22·5	1174
Oldham	21·2	23·5	1228
Sunderland	22·7	23·6	1233
Leeds	22·6	24·2	1261
Salford	22·4	24·3	1268
Halifax	22·5	24·4	1271
Blackburn	23·5	25·6	1333
Liverpool...	23·5	25·8	1347
Sheffield	24·9	26·8	1397
Newcastle-upon-Tyne ...	25 9	27·1	1427
Bolton	25·9	28·2	1472
Preston	27·4	29·8	1552
Manchester	30·6	34·0	1775

True comparative Death-Rates.—Whenever comparison is made between the vital statistics of one community and another, it is always necessary, in order to arrive at a just conclusion, that we should be comparing them on equal terms, or a serious error may be fallen into. Thus one town may be composed largely of adults in the prime of life, with a small percentage of young children, or aged persons, and it is therefore necessary to take into consideration these disturbing factors. From the data obtained at the census periods, these corrections for sex and age constitution of the different populations can be made, and in Table IV. this has been done. From this it is observed that corrected rates do not, in most instances, alter the relative position of the towns the one to another: thus the first six towns are in the same relative order whether the recorded death-rate in the first column, or the corrected rate in the second column is taken. But it is the third column which presents the varying mortality of our large towns in the most striking manner. Here the unit of mortality for the whole country is put at 1000. Thus, for every 1000 deaths that occurred in England and Wales last year only 910 occurred in Nottingham, 953 in Brighton, and 968 in Leicester, whilst at Preston and Manchester the excess was enormous, 1552 and 1775 persons, respectively, having died there, for every 1000, in the country at large.

Errors to be avoided in comparing towns.

Mortality at different Ages.—One of the most important things to be taken into consideration when dealing with vital statistics is the mortality *at the different age periods* of life. But to ascertain this, it is necessary to know, approximately, what is the number of the population at each of these periods; this information can only be accurately obtained at the Census year, and as ten years have now elapsed since the last Census, and the growth of the town has gone on continuously since then, any estimates founded upon those figures will be liable to mislead; these calculations therefore, and the tables comparing Leicester with the standard English life tables, have, for the present, been omitted.

TABLE V.

Infantile Mortality in the large English Towns.
Deaths under one year per 1000 Births.

	1890.	1889.	1888.
Portsmouth	135	138	134
Bristol	151	146	123
Derby	157	148	143
Nottingham	159	182	151
Hull	160	184	139
Plymouth	161	166	163
London	163	141	146
Cardiff	168	158	141
Brighton	164	131	149
Birkenhead	166	170	151
Huddersfield	168	168	157
Bradford	169	182	153
Newcastle-upon-Tyne	169	175	137
Halifax	170	175	154
Leeds	172	177	173
Sunderland	173	181	133
Wolverhampton	175	180	167
Bolton	176	167	172
Norwich	180	163	163
Oldham	180	178	151
Birmingham	183	170	154
Manchester	187	176	176
Blackburn	188	204	190
Sheffield	195	174	178
Liverpool	195	188	168
Salford	199	181	184
Leicester	**203**	**209**	**204**
Preston	241	264	188
Average of 27 Provincial Towns	179	177	161

When the figures of the forthcoming Census shall be available, these tables will again be inserted.

Slight decrease of Infantile Deaths.

Infantile Mortality.—The records of the year now under review, show a slight improvement on the infantile mortality of the town, the deaths of children under one year of age being 958, as against 1004 in the preceding year, and are 203 per 1000 of the total births (see Tables II. and V.) In table V. is given the infantile mortality of all the large towns of the country, the average of which is 179 per 1000 of births. Portsmouth stands lowest with 135 per 1000, whilst Preston exceeds Leicester, having a rate of 241 per 1000 births. The causes to which these infantile deaths are proximately assigned are given in Table VI., amongst which Atrophy and Debility, Diarrhœa, Convulsions, and lung Diseases figure the most prominently, but behind these, and lying much deeper as real agencies, are the ignorance, carelessness, and unfavourable surroundings generally for child-rearing, into which so many of the infants of the poorer classes are born. It is also to be feared that, in not a few instances, criminal negligence has a share in swelling our infantile mortality. At the Annual Meeting of the local Branch of the Society for the Prevention of Cruelty to Children, Mr. Councillor Clifton (who takes a warm personal interest in the Society's work) presented a report, which shews, that even in Leicester, with its comparatively small proportion of a really criminal population, many instances of brutal cruelty and neglect of children have been brought to light by its operations. To remedy much of this, we may look hopefully to the spread of education, and to the many philanthropic agencies at work in this direction.

Cruelty to Children.

A movement commenced this year, in Leicester, is an important step towards this end. The Leicester School Board have inaugurated a scheme for teaching the elementary principles of health and sanitation to the senior classes of the Schools under their control. No more useful information can be imparted to these children, especially, as to so large a number of them, any such teaching at home is sadly lacking. Progress in this direction

TABLE VI.

Rates of Mortality of Children under one year of age, from chief Infantile Diseases, per 1000 Births.

	1888.		1889.		1890.	
	Total Deaths.	Rate per 1000 Births.	Total Deaths.	Rate per 1000 Births.	Total Deaths.	Rate per 1000 Births.
From all causes ...	980	204·7	1004	209·6	958	203·7
Atrophy & Debility	210	43·8	202	42·1	230	48·9
Diarrhœa	119	24·8	190	39·7	190	40·4
Convulsions	179	37·3	198	41·3	159	33·8
Lung Diseases ...	150	31·3	136	28·3	109	23·2
Premature Birth ...	117	24·4	101	21·0	93	19·8
Tubercular Disease	37	7·7	28	5·8	40	8·5
Measles...	23	4·8	16	3·3	5	1·0
Whooping Cough	39	8·1	10	2·0	9	1·9

must necessarily be slow, and no very great immediate improvement can be expected.

High mortality of Illegitimate Children.

Illegitimacy.—The illegitimate births registered were 206, or forty-two less than in 1889. There were 89 deaths of illegitimate children, of which 71 were less than a year old, equal to a mortality of 344 per 1000 births as compared with 203 per 1000 the general infantile mortality in Leicester last year, thus shewing how much higher are the deaths amongst illegitimate infants than amongst children born in wedlock.

Infantile Insurance.—The subject of insurance of infantile lives, has occupied much public attention during the past year, and a select Committee appointed by the House of Lords, presided over by the Bishop of Peterborough, has taken evidence from many sources, amongst others from Her Majesty's Judges, and from several coroners. The inquiry is not yet finished, but it is hard to resist the conclusion that some checks, or further safeguards must be put upon this business, to prevent the abuse of a system, which in its inception is good, and when properly and legitimately used, is calculated to be of much service to the poorer classes of the community.

Infantile Insurance in Leicester.

The insurance returns affecting infants in Leicester were again obtained during last year. From these it appears that of the 958 infants who died under one year of age, no less than 348 had insurances effected upon them, whilst an additional 198 under five years old, were also insured, making a total for Leicester of 546 insurances on the lives of children under five years, out of a total number of 1263 deaths under that age.

Ward Mortality.—The varying mortality in terms of the Death-rate for the different districts of the Borough, cannot, in the absence of approximately accurate information as to the population of those districts be stated. In table VII. is given the gross mortality of the various wards of the town, and their division into ages. When the figures of the forthcoming census shall be available this table will again be given properly filled in and completed.

TABLE VII.

Deaths at different ages and Death-rates in the various Wards of the Borough during 1890.

	All Ages.	Under 1 year.	1 Year to 5.	Over 5 years.	Estimated Population.	Ward Mortality per 1000 living.
1.—St. Martin's Ward	26	4	2	20	?	*Death-rate not calculated owing to Ward population being unknown until next census.*
2.—N. Margaret's "	347	135	43	169	?	
3.—M. Margaret's "	726	282	92	347	?	
4.—E. Margaret's "	786	199	82	503	?	
5.—E. Mary's "	103	22	6	75	?	
6.—W. Mary's "	482	169	40	276	?	
7.—All Saints' "	329	147	40	146	?	
Totals	2799	958	305	1536		

TABLE VIIa.

Distribution in the different wards, of Deaths from Six important groups of disease during 1890.

	Six chief Zymotic Diseases.	Diarrhœa	Develop-mental.	Acute Respiratory.	Phthisis	Convulsions.
1.—St. Martin's Ward	0	0	5	3	2	1
2.—N. Margaret's "	11	42	66	69	25	18
3.—M. Margaret's "	30	56	145	131	50	63
4.—E. Margaret's "	43	46	155	139	55	44
5.—E. Mary's "	1	3	9	19	8	8
6.—W. Mary's "	23	34	98	88	31	40
7.—All Saints' "	11	37	78	49	26	25

N.B.—The mortality of the fourth, or East St. Margaret's Ward, is a little over-stated, as owing to the absence of the necessary information, the deaths in the workhouse, which is situate in this Ward, cannot be distributed to the districts from whence the patients came.

How much more heavily some Wards of the town suffer from various form of disease is markedly shewn in Table VIIA, where the deaths of six important groups are given. Of course, to obtain the real and full significance of these figures, the population of each Ward requires to be known. After the approaching census is taken, we shall again have those figures. The last estimate (probably a long way from being accurate) was made in 1887 as follows:—

	Estimated Population in 1887.
1.—St. Martin's Ward	2,256
2.—North Margaret's Ward	15,484
3.—Middle Margaret's Ward	37,294
4.—East Margaret's Ward	34,975
5.—East Mary's Ward	10,123
6.—West Mary's Ward	26,912
7.—All Saints' Ward	16,109

Classified Causes of Death.—The eight main divisions or groups into which the diseases are at present classified, with the total deaths and death-rates therefrom, are given in Table VIII.

The first, or Zymotic group, contains 13 per cent. of the whole; the fourth, or Constitutional diseases, also 13 per cent.; whilst the fifth, or local (always the largest division) has nearly 50 per cent. of the total.

The various sub-division of these large classes, further divided into ages, and sexes, will be found in the Mortality Tables in the Appendix.

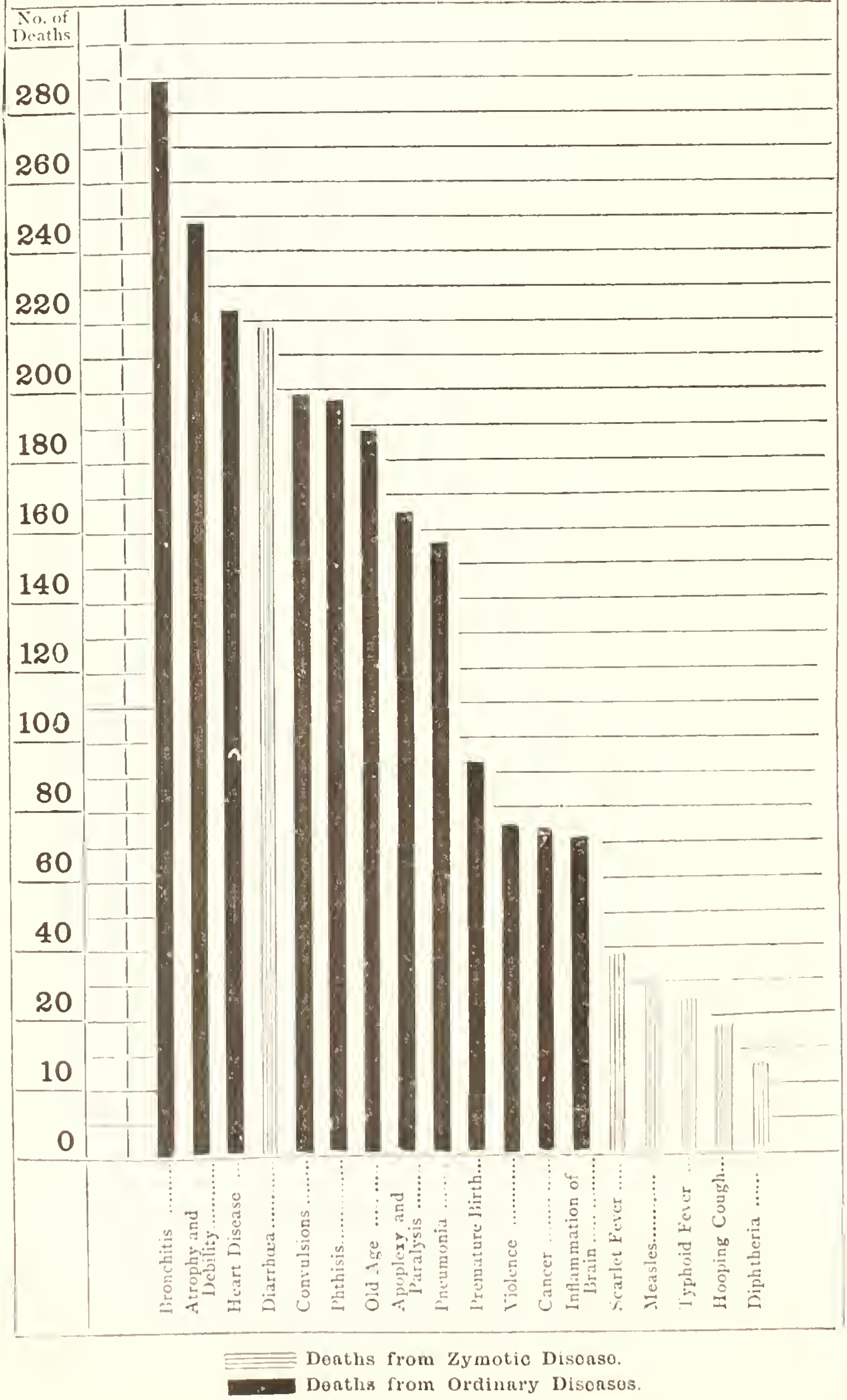
TABLE VIII,

Total Deaths, Death-rate, and per centage of Deaths of the eight principal groups of Disease.

	1889.			1890.		
	Total Deaths.	Rate per 1000 living.	Per centage of Total Deaths.	Total Deaths.	Rate per 1000 living.	Per centage of Total Deaths.
Zymotic Disease ...	372	2·4	14·8	375	2·4	13·4
Parasitic „ ...	2	...	...	3	...	...
Dietic „ ...	0	...	...	2	...	...
Constitutional ...	329	2·1	13·0	374	2·4	13·3
Local	1198	7·9	47·6	1392	9·0	49·7
Developmental ...	502	3·3	19·9	556	3·5	19·8
Violence	83	0·5	3·3	80	0·5	2·8
Ill defined	27	0·1	1·0	17	0·1	0·6

The following diagram gives in a graphic form the deaths from those diseases which have caused the greatest amount of mortality. The Zymotic deaths are distinguished by the colour. Each of the above divisions will be considered somewhat in detail, commencing with the Zymotic group.

Diagram shewing relative mortality from some of the principal causes of death during 1890.



Class I.—ZYMOTIC DISEASES.

Zymotic Death-rate.—In addition to the commonly called infectious diseases, the zymotic group includes: Diarrhœa, Dysentery, Glanders, Splenic Fever, Venereal Disease, Erysipelas, Pyæmia, Septicæmia, and Puerperal Fever. The total deaths last year from the whole of these was 375 (see Table VIII.), equal to a mortality of 2·4 per 1000 of the population.

But speaking only of the *seven common* zymotic diseases—*i.e.*, Small Pox, of which there were no deaths; Measles, 30 deaths; Scarlet Fever, 38; Diphtheria, 11; Whooping Cough, 16; Fever, 24; and Diarrhœa, 218, we have a Zymotic death-rate of only 2·1, of *which more than two-thirds* is caused by the high mortality from Diarrhœa. (*Table X.*)

In the twenty-eight great towns of the Kingdom the Zymotic death-rate from these seven chief Zymotics was 2·7 per 1000, ranging from 1·2 in Huddersfield to as high as 4·3 in Preston. Only seven of these towns had a lower Zymotic death-rate than our own, so that in this respect also, Leicester bears very favourable comparison with other towns, notwithstanding its Diarrhœa prevalence.

Zymotic Death-rate i large towns

In Table X. it is shown that, with the exception of Diphtheria, which is stationary, the deaths last year from the above diseases were in each case below the average of the past ten years:

Ward Mortality from Zymotic Diseases.—In Table IX. is given the distribution of the Zymotic deaths in the different Wards of the Borough. In St. Martin's Ward not one was recorded, and the fifth Ward was almost free from Zymotic mortality. The general prevalence or otherwise of infectious disease has already been referred to in Part I., (page 8), when speaking of the notification of these diseases, and it remains here to give simply the full statistics of the same in their order.

Small Pox.—Once again the Borough has been completely free from this most contagious and loathsome disease, this being

TABLE IX.

Deaths in each of the Wards of the Borough from the chief Zymotic diseases during 1890.

	Whooping Cough.	Measles.	Scarlet Fever.	Diphtheria.	Fever.	Diarrhœa.	Total.
1st Ward ... ... (St. Martin's)	0	0	0	0	0	0	0
2nd Ward ... ... (North Margaret's)	0	2	5	1	1	42	51
3rd Ward ... ... (Middle Margaret's)	2	9	10	5	6	56	88
4th Ward ... ... (East Margaret's)	5	13	9	5	11	46	89
5th Ward ... ... (East Mary's)	0	0	0	0	1	3	4
6th Ward ... ... (West Mary's)	6	3	9	0	4	33	55
7th Ward ... ... (All Saint's)	3	3	5	0	1	38	50
Totals	16	30	38	11	24	218	337

the second consecutive year in which no case has been heard of in the town; and no death has been caused by it since the year 1883.

It should, however, be stated that during last year only four of the large provincial towns had any deaths from Small Pox; in Hull there were three, and in Huddersfield, Derby, and Plymouth there was one each. In London four deaths were registered during the year.

Measles.—In the absence of notification of this disease it is impossible to state the number of cases that have occurred. Thirty deaths resulted from it, of which 24 were in the fourth quarter, and at the close of the year a widely spread outbreak was in progress.

In the twenty eight large towns measles caused 6194 deaths, equal to a death-rate of 0·63 per 1000. In Leicester the rate was only 0·2. In Table X. it will be seen that the average annual deaths from measles during the last decade has been 64.

Whooping Cough.—The same remarks apply to Whooping Cough as to Measles, respecting our ignorance of the actual number of children who have suffered from this disease. Only sixteen deaths were caused by it, of which nine occurred in the last quarter of the year, at which time the disease was rapidly increasing.

Low mortality from Whooping Cough.

Throughout the country the mortality from Whooping Cough was low. In the twenty-eight large towns 5795 deaths resulted from it, of which more than one half were in London. The death rate in these towns was equal to 0·59 per 1000. In Leicester the rate was but 0·1, and was not one-third so fatal as the average of the past ten years. *(Table X.)*

Little Diphtheria in Leicester.

Diphtheria.—The total cases reported were 75, but it is certain that a considerable proportion of these were not true diphtheria *(see remarks page 17)*, of these, eleven were fatal, giving a death rate of 0·07 per 1000. Considering what a tendency this disease shews to increase in prevalence in our large centres of population, especially in London, this return is reassuring. In the large provincial towns there was a mortality of 0·17 per 1000, whilst in the metropolis it reached as high as 0·32 per 1000, causing no less than 1417 deaths there. Of the eleven deaths which occurred in Leicester, six were children under five years of age, and no adult died from this disease. The average number of deaths for the past ten years has been eleven. *(See Table X.)*

Scarlet Fever.—The notified cases of Scarlet Fever during the year were 516, an increase of 107 over the preceding twelve months *(see Table C, page 15)*. The deaths were 38, equal to 0·24 per 1000 living, a larger number than has been recorded

TABLE X.

Shewing the number of Deaths from the principal Zymotic Diseases in the Ten Years 1880 to 1889, and in the Year 1890.

DISEASE.	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	Annual average of Ten Years 1880-89.	Proportion of Deaths to 1000 Deaths, in Ten Years 1880-89.	Total Deaths in 1890.	Proportion of deaths to 1000 Deaths in 1890-
Small Pox	0	2	5	3	0	0	0	0	0	0	1	0·3	0	0
Measles	166	7	74	15	57	52	43	87	77	62	64	23·8	30	10·7
Scarlet Fever	119	184	72	91	63	113	44	5	4	6	71	26·4	38	13·5
Diphtheria	23	11	5	6	11	14	4	13	13	10	11	4·1	11	3·9
Whooping Cough ...	27	122	19	59	66	52	27	55	86	26	54	20·1	16	5·7
Fevers { Typhus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Enteric...	46	29	19	10	16	36	19	31	32	22	26	9·6	24	8·5
Simple continued	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diarrhœa	398	193	214	148	344	186	256	247	148	121	235	87·6	218	77·8
Totals	779	548	408	332	557	453	393	438	360	347	462	172	337	120

here since the year 1886, when forty-four deaths resulted from it. The average annual number during the preceding ten years has been 71 *(see Table X.)*

Leicester, however, compares very favourably last year with the other large towns, where the average Scarlatina death-rate was 0·38 per 1000. In London it was only 0·19, whilst in the 27 provincial towns it was no less than 0·40. Manchester, Sheffield and Liverpool especially suffering from it, where 287, 272, and 588 deaths respectively, were caused by it.

Scarlet Fever in other Towns.

In continuation of returns given in former years Table XI. shows the monthly distribution of these deaths throughout the year, from which it will be observed that there was no special incidence on any one part of the year now reported upon. In Table XII. is given the ages of all persons in the Borough known to have suffered from an attack of this disease, with the deaths, and the death-rate at different ages. These figures shew how much more fatal Scarlatina is under the age of four years than

TABLE XI.

Deaths from Scarlatina during each Lunar Month of the following years.

Year.	I.	II.	III	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII	Total.
1879	0	1	4	1	4	2	1	7	13	20	15	19	20	107
1880	12	7	4	13	6	7	3	4	12	5	16	12	17	118
1881	12	6	9	6	7	11	18	18	31	24	19	19	12	192
1882	6	12	5	2	2	2	2	2	3	9	11	7	8	71
1883	4	2	3	3	8	7	6	3	5	5	12	15	18	91
1884	8	12	5	2	7	5	2	3	4	2	3	5	5	63
1885	2	10	5	6	3	9	4	14	9	15	10	10	16	113
1886	9	11	2	4	2	0	0	1	3	2	2	4	4	44
1887	2	0	1	2	0	0	0	0	0	0	0	0	0	5
1888	1	0	0	0	0	1	0	1	1	0	0	0	0	4
1889	0	0	1	0	0	0	0	0	2	0	2	0	1	6
1890	**1**	**4**	**1**	**4**	**2**	**3**	**4**	**2**	**5**	**0**	**6**	**5**	**1**	**38**

above that age, and that the chances of recovering from an attack are much increased, if it should occur after, rather than before the age, of four or five.

Typhoid Fever.—General reference to this disease has been already made *(see page 14).* The full statistics relating to it are as follows. The notified cases—that is the number of persons known to have suffered from an attack—was 165. Of these 24 died—of whom eleven were males, and 13 females. Only one of these was under the age of five years, typhoid fever being essentially a disease of adolescence. The mortality is equal to a rate of 0·15 per 1000 of the population.

In the twenty-eight large towns the death-rate from Fever was 0·19 per 1000, being most fatal in Portsmouth, Salford, Sunderland and Birkenhead.

Varying mortality om Typhoid.

In table X. it is shewn that the mortality from Fever has varied in the Borough during the last ten years, from only ten deaths in 1883 to as many as forty-six in 1880, when the population was many thousands less than at present. The average number for the last ten years is seen to have been 26.

The above figures include *all cases of continued Fever*, but as Typhus is unknown here, the only cases not coming perhaps properly under the head of Typhoid, are those cases of mild continued fever of a somewhat indefinite character.

Diarrhœa.—The slight decrease in the mortality from Diarrhœa during last Summer has been already mentioned *(page 18)*, the deaths recorded being 218, as against 221 in the preceding year. Of these, 206 were children under five years old. The average annual number of deaths during the last ten years has been 235 *(see Table X.)* and the yearly numbers during that period have varied from 148 in 1883 to to 398 in the year 1880.

The number of patients supplied with medicine last year by the Corporation was 4183. The following Table gives the ages of those supplied; nearly three-fourths being more than ten years old.

Number and Ages of Patients suffering from Diarrhœa, in the Summer of 1890, to whom Medicine was supplied gratuitously.

Under 1 year ...	164	5 years to 6	53	10 years to 20 ...	526
1 year to 2	247	6 „ 7	59	20 „ 60 ...	2189
2 years to 3	233	7 „ 8	48	Over 60 years ...	348
3 „ 4	160	8 „ 9	38		
4 „ 5	76	9 „ 10	42	Total all ages	4183

The distribution of deaths from Diarrhœa in the various wards of the Borough is shewn in Table VIIa, page 58.

In the twenty-eight large towns the deaths from Diarrhœa were 7678, equal to a rate of 0.77 per 1000. In Leicester the death-rate was 1·4 per 1000, the same as the preceding year. This disease was most fatal in Norwich, Manchester, Blackburn, Leicester and Preston; in the last named town the mortality reached no less than 2·5 per 1000.

Erysipelas.—207 notified cases, with eleven deaths is the record so far as bare figures are concerned, but not one-half of these are such as really deserve the name of Erysipelas. Of the fatal cases three were under a year old, and five were over sixty years of age. It has been stated repeatedly in these reports that the notification of Erysipelas, is, from a sanitary point of view, a useless expense, as practically there is but little tendency to spread to healthy individuals. To emphasise this, it may be pointed out that since the year 1885 upwards of fifteen hundred cases have been notified in the Borough, and yet there is scarcely a solitary instance known of the disease spreading from the person first suffering to a second individual.

Little danger from Erysipelas.

Other Zymotics.—Of the remaining Zymotic deaths not alluded to in detail, seven were from Influenza, three from Dysentery, twelve Syphilis (of which eleven were congenital), four from Septicæmia, and one from Puerperal Fever.

Classes II. and III.—Parasitic and Dietic Diseases.

In this country, happily, the mortality from Parasitic Diseases is exceedingly low, In Leicester not more than three deaths

TABLE XII.

Shewing Mortality and Ages of persons suffering from Scarlet Fever.

	1890.			1889.			1888.		
	No. of Patients.	Deaths.	Death rate per cent.	No. of Patients.	Deaths.	Death-rate per cent.	No. of Patients.	Deaths.	Death-rate per cent.
Under 1 year	9	1	11·1	3	0	0	3	0	0
1 to 2 years	11	3	27·2	12	0	0	5	0	0
2 to 3 „	44	8	18·2	31	0	0	7	3	42·8
3 to 4 „	34	11	32·3	43	2	4·6	19	1	5·2
4 to 5 „	56	9	16·0	54	2	3·7	16	0	0
5 to 6 „	72	2	2·7	42	1	2·3	14	0	0
6 to 7 „	76	2	2·6	42	1	2·3	18	0	0
7 to 8 „	46	0	0	35	0	0	7	0	0
8 to 9 „	40	1	2·5	23	0	0	9	0	0
9 to 10 „	24	0	0	25	0	0	6	0	0
Over 10 years	101	1	1	96	0	0	27	0	0
Age not stated	3	0	0	2	0	0	1	0	0
Totals... ...	516	38	7·3	408	6	1·5	132	4	3·0

were attributed to any of these. In the Dietic class only two were registered though it is very certain that a considerably larger number would very justly be placed in this division, if a variety of reasons did not operate to keep them out, for excessive indulgence in alcoholic drinks operates in divers ways in producing disease, and accelerating death, and is none the less the real factor in swelling the mortality returns, though it does not show directly, as such in our mortal statistics.

Alcohol and Disease.

Class IV.—Constitutional Diseases.

Three hundred and seventy-four deaths were due to the various forms of Disease classed as Constitutional Diseases, *(see Table VIII., and Mortality Tables in Appendix)*. In 1889 the number was 329. Seventy-nine were from various forms of cancer, and 197 were set down to Phthisis. Both these diseases are at the present time the subject of much investigation and study, both as to the causes at work and in producing them, and also as to the means to be employed in combating them. Of the former, our knowledge is in both respects exceedingly scanty, but with regard to the treatment of Phthisis, the whole civilised world has been more or less interested in a remedy brought forward during the Year by Prof. Koch, of Berlin. In August last he read a paper before the International Medical Congress, detailing some experiments and observations he had long been engaged upon, with a view to discover a remedy against the various forms of Tuberculosis, and although he gave no precise details, what he then said was sufficient to arouse a wide-spread and anxious interest throughout the whole Medical world. A few weeks later he announced that he had discovered what he believed to be a real curative agent for this wide-spread and almost universal disease. This announcement created a perfect *furore*, and medical men as well as patients flocked to Berlin in enormous numbers to learn the details of this treatment which was, to a certain extent, at first kept secret. It consists in the injection beneath the skin of a fluid prepared artificially, by the action of tubercle bacilli growing in a nutritive media. This fluid appears to attack the

Koch's Treatment o Tuberculosis

TABLE XIII.

Shewing the Deaths at all ages during 1890, from certain groups of Diseases, and proportion to 1000 of population, and to 1000 deaths from all causes; also the number of Deaths of Infants under one year of age, from other groups of Diseases, and proportion to 1000 Births, &c.

DIVISION I. All ages.	Total Deaths.	Deaths per 1000 of Population at all ages.	Deaths per 1000 of Total Deaths at all ages.
1. Zymotic Diseases	375	2·4	134
2. Pulmonary or Respiratory Diseases (Excluding Phthisis)	498	3·2	178
3. Principal Tubercular Diseases ... (Including Phthisis)	252	1·6	90
DIVISION II. (Infants under one year.)	Total Deaths.	Deaths per 1000 of Births.	Deaths per 1000 of Total Deaths under 1 year.
4. Wasting Diseases ... . (Including Tabes Mesenterica)	240	51	250
5. Convulsive Diseases	159	33	165

tubercle bacillus wherever it is located in the body, whether in the lungs, the skin, or joints, etc., and thus destroy them. It is to be remembered that Phthisis, or Pulmonary Consumption, is but one, though the most common of the manifestations of tuberculosis. That this fluid possesses active and remarkable properties is true, whether it will accomplish, what was at first expected of it, is more than doubtful. At present it is upon its trial, and it remains yet to be seen, whether in the most successful cases, and where results apparently amounting to cure, have been obtained, the effects are real and permanent. In any case, however, it will in no way diminish the necessity for all measures to be taken, both by individuals as well as Public Health Authorities, which shall tend to abolish those conditions, which we know favor the development of this fatal scourge. Amongst these, the most prominent are damp, dirty, sunless dwellings, a vitiated and impure atmosphere, the overcrowding of rooms, workshops, and all places in which human beings congregate: and especially the lack of proper ventilation in rooms occupied for hours together, either by day or night, nothing being more favourable to the development of pulmonary tuberculosis than the breathing and re-breathing of air, vitiated by the exhalations from human lungs and bodies.

Causes
predisposin
to Phthisi

In addition to the deaths from Phthisis, 197 in number, there were 55 caused by other forms of tuberculosis *(see Tables XIII., also Mortality Tables in Appendix).*

In Table VIIa, the deaths from Phthisis in each of the Wards of the Borough are given.

Class V.—Local Diseases.

1392, or nearly one half of the whole of the deaths in the year are comprised in Class V., or Local Diseases *(see Table VIII.)* In the sub-divisions of this Group are Diseases of the Nervous System, amongst which were 162 deaths from Apoplexy and Paralysis; 71 from Inflamation of the Brain; and 199 from Convulsions. These latter, so far as mere classification is concerned, are very unsatisfactory, the bulk of them are infants less than a year old *(Table XIII.)*, and in most of these cases the Convulsions are merely a symptom produced from many different causes. Another sub-division of this class contains the Diseases of Heart and Blood-vessels; Heart Disease was assigned as the cause of Death in 221 instances.

The Diseases of Respiratory Organs were responsible for no less than 498 deaths *(see Table XIII.)*, an increase of 94 on the preceding year. Much of this excess was, in great measure, due to, or associated with, the outbreak of Influenza in the first quarter of the year.

Other sub-divisions in this class of Local Diseases are those of the Digestive Organs, the Urinary Organs, Diseases of the Reproductive System, the Skin, Bones, Joints, and Organs of Special Sense, all of which are fully detailed in the Mortality Tables found in the Appendix.

Class VI.—Developmental Diseases.

In this group, the deaths in which last year were 556, are those Diseases and conditions which have to do with the growth and the decay of the body. Premature Birth accounted for 93 deaths, and Old Age for 190. Under the vague term "Atrophy and Debility" are set down no less than 244. The remarks made when speaking of Infantile Mortality have special relation to the deaths under this heading, for 203 out of the 244 were infants less than a year old, and it is quite certain that a large percentage of these lives would not, under better social conditions and surroundings, have come to so untimely an end. The distribution of these Developmental deaths in the various Wards is shewn in Table VIIa., page 58.

Table VII.—Deaths from Violence.

The deaths from Violence were 80 in number, *i.e.*, 30 from fractures and contusions (for a large manufacturing town not a high record), five from burns and scalds, one from poison, ten from drowning, and seventeen from suffocation, *fifteen of these latter being under a year old.* There were no less than seventeen suicidal deaths in the year, thirteen of men and four of women. In six of these hanging was the means selected for ending life, in four instances poison was used, three were by drowning, two by shooting, and two by cutting the throat. No death was returned as homicidal.

Suicidal Deaths.

Class VIII.—Ill-defined and Unspecified Causes.

Only seventeen deaths appear in this group, the causes assigned being so vague, or indefinite, as not to admit of them being placed in either of the preceding classes. From a statistical point of view, this small number is very satisfactory.

Inquests.

The enquiries held by the Coroner into the cause of death were 235. This is exclusive of those deaths which occurred in the Infirmary, the result of accidents, etc., brought there for treatment from districts outside the Borough.

The proportion of Inquests held to the total deaths last year was 8·4 per cent., a rather smaller ratio than in some former years.

Many of these Inquests were on young children, and although the holding of unnecessary Inquests is to be deprecated, it is most desirable that all proper inquiry should be made into the cause of death in all cases where no medical man has been in attendance during life. Too easy facility for the burial of infants without proper certification, as to how or why they died, paves the way for much abuse.

Proper enquiry needful in uncertified deaths.

Uncertified Deaths.

The uncertified deaths (the whole of which were infants and young children), numbered 60, being an increase of eight over the previous year.

These uncertified deaths were only 2·1 per cent. of the whole of the year's deaths.

The average of the 27 large provincial towns was 2·9 per cent. In London it was so low as 0·9 per cent., in Plymouth 0·6 per cent., Portsmouth 0·7, whilst in Sheffield it was 4·9 per cent., in Halifax 5.5, and in Liverpool no less than 6·1 per cent. of all the deaths. The number of Inquests and the number of uncertified deaths of any town usually bear a relation the one to the other, where the former are numerous the latter are few, and *vice-versa*.

PART III.

FEVER HOSPITAL.

Report for the year ending December 31st, 1890.

During the year 480 patients have been admitted into the Borough Fever Hospital. In only two years of the last decade have so large a number been treated within its Wards *(see Table E)*. This increase has been entirely due to Scarlet Fever, which has prevailed both in the Borough and the surrounding districts more or less the whole year through. Of the above number, eighty were admitted from the county outside the Borough boundaries; (the Health authorities of these districts having no hospital of their own for the isolation of infectious disease), and four-hundred have been received from the town.

Patients from surrounding districts.

The fact that 400 patients out of a total of 516 known to have been attacked with Scarlet Fever should be removed to the hospital is sufficient evidence that the institution stands well in the estimation of the public.

Notwithstanding the unsatisfactory construction and arrangement of the place, the service it has thus rendered in isolating so large a number of patients suffering from an intensly infectious disease, is no small one. Happily the Small Pox Wards have not been required for a single case of that Disease, the whole year through.

Need for new Hospital.

STATISTICS OF FEVER HOSPITAL.

Cases under treatment, etc., during the Year 1890.

TABLE A.

General Summary.

Remaining in Hospital December 31st, 1889 ...	66
Admitted during the year 1890	480
Total under treatment	546
Discharged cured	468
Died	29
Remaining in Hospital Dec. 31st, 1890...	49
	546

In last year's report the hope was expressed that ere long the need for the re-construction of the Hospital would engage the serious attention of the Committee. It is a source of considerable satisfaction to your Officer of Health to be able to state, that this matter is now coming to the front, and that, ere long, active steps will be taken to provide Leicester with a Fever Hospital more worthy of a large and wealthy community.

The whole number of patients under treatment during the year was 546. The recoveries were nearly 95 per cent. *(See Tables A and B).*

The admissions of Scarlet Fever, 479 in number, have been spread pretty evenly over the year, as shewn in Table C, varying from 29 in May to 54 in October.

During the past twelve months there has been a larger proportion than usual of these cases, complicated with Albuminuria, Sloughing Glands, Abscesses, etc. The greater number of the twenty-seven fatal cases have suffered in this way, although special care has been taken to guard against over-crowding in the wards, which have all been thoroughly cleansed, washed and disinfected more than once during the year. It should be stated however, that the type of the disease, generally, has been of a more severe character than in some former years, and no doubt largely contributed to the occurrence of these complications and sequelæ. The mortality from Scarlet Fever amounted to five per cent., *(see Table B)*, which, though higher than during the few preceding years, is yet low when it is considered how many *very young patients* were admitted for treatment, 148 being under five years of age *(see Table D)*. The result of hospital treatment, moreover, compares very favourably with that of those patients who remained in their own homes. Thus amongst the 116 cases which were not removed to hospital twelve deaths occurred, or a mortality of 10·3 per cent. This disease is much more fatal from two to four years of age than at any other period of life.

Scarlatina Mortality in Hospital and in own homes.

Of the 27 fatal cases, two died within four days of admission, four within three days, and two within forty-eight hours after coming into hospital.

The complications and sequelæ which occurred were as follows: Nephritis, or Inflammation of the Kidneys (one of the most troublesome as well as dangerous results of Scarlet Fever), was met with in forty-eight of the patients, in eight of these, this was further complicated with Otorrhœa, or Inflammation of the internal ear, and in three cases with Empyema. Thirty-three patients suffered from Otorrhœa alone, and ten with Abscesses, the result of suppuration of the cervical glands.

In two instances the attacks were complicated with measles, in one with Whooping Cough, in one with a severe Scald, in one with fractured arm, in one with Chorea, in one with Septicæmia, and in one with Syphilis.

The surgical cases mentioned were received from the wards of the Leicester Infirmary, and it may also be noted that we have received five nurses suffering from Scarlet Fever from the staff of the Infirmary, all of whom made a good recovery.

Patients from Infirmary.

Hospital Expenditure.—The expenditure for the year has been £2400 : 11 : 1, an increase of nearly £1000 over that of 1889. The increased number of patients under treatment accounts for great part of this, as shewn in the larger amounts paid in

TABLE B.

Shewing number of each Disease under treatment, with the Death-rate thereof, in 1890.

	In Hospital Dec. 31, 1889.	Admitted.	Discharged Recovered.	Died.	Mortality per cent.	Remaining in Hospital Dec. 31, 1889.
Scarlet Fever	66	471	461	27	5·0	49
*Typhoid Fever	0	3	3	0	0	0
*Measles... ...	0	1	1	0	0	0
Erysipelas ...	0	1	1	0	0	0
*Chicken Pox	0	1	1	0	0	0
*Other diseases	0	3	1	2	66·6	0
Totals ...	66	480	468	29	5·5	49

**In each of these the attack of Scarlatina for which the patients were admitted (if it existed) was co-existant with, or immediately followed by, the above diseases.*

TABLE C.

Shewing Monthly Admissions and Deaths from Scarlet Fever in 1890.

	Admissions	Deaths
January	43	2
February	34	3
March	25	1
April	31	3
May	29	1
June	46	2
July	47	1
August	43	3
September	51	1
October	54	4
November	43	4
December	33	2
Total ...	479	27

TABLE D.

Ages of Scarlet Fever Patients.

Age.		No. admitted.		Deaths.
Under 1 year	... ...	2	...	0
From 1 to 2 years	... ...	9	...	2
,, 2 to 3 ,,	... ...	45	..	6
,, 3 to 4 ,,	... ...	39	...	9
,, 4 to 5 ,,	... ...	53	...	6
,, 5 to 6 ,,	... ...	79	...	2
,, 6 to 7 ,,	... ...	51	...	2
,, 7 to 8 ,,	... ...	34	...	0
,, 8 to 9 ,,	... ...	39	...	0
,, 9 to 10 ,,	... .	18	...	0
,, 10 to 15 ,,	... ...	75	...	0
Over 15 years	... ...	26	...	0
	Totals ...	479		27

TABLE E.

Cases of Infectious Disease admitted into the Fever Hospital from 1878 to 1890, inclusive.

Year.	Small-Pox.	Scarlet Fever.	Erysipelas.	Typhoid.	Measles.	Unclassified.	Quarantine.	Total.
1878	8	51	18	0	0	1	...	78
1879	0	247	22	0	0	0	...	269
1880	1	230	47	5	0	0	...	283
1881	6	388	46	0	0	0	...	440
1882	30	460	44	0	0	0	...	534
1883	12	383	12	0	0	0	...	407
1884	6	354	5	0	0	0	...	365
1885	8	900	3	0	0	3	10	924
1886	1	439	0	0	10	5	2	457
1887	10	151	1	13	0	2	14	189
1888	23	94	1	0	0	0	39	154
1889	0	327	1	1	1	0	0	330
1890	0	471	1	3	1	4	0	480

NOTE.—Prior to 1885 the number of persons in quarantine is not known. In the year 1887 two persons in quarantine developed Small-pox, and in 1888 three; these appear in the Small-pox column as well as in the quarantine column of the above Table.

TABLE F.

Payments and Receipts during the year ending 31st Dec., 1890.

Expenditure.

Drugs, etc.	22	11	3			
Instruments and Appliances ...	2	15	9			
Wines and Spirits	7	4	0			
Disinfectants	20	8	0			
				52	19	0
Salaries and Wages	542	19	1			
Advertising, Printing, and Stationery	1	13	0			
Linen, Bedding, etc.	82	7	8			
Fixtures and Furniture	61	12	0			
Domestic Implements and Utensils	34	8	0			
Alterations and Repairs	289	14	7			
Painting and Whitewashing ...	56	0	0			
Rates and Insurance	11	0	3			
Garden Seeds, Plants, etc. ...	7	11	7			
Water Rate, etc.	2	15	2			
Rental of Telephone	19	0	0			
Horsehire and Horsekeep ...	36	6	6			
Ambulance, Harness, Repairs, etc.	68	9	1			
General and Sundries	30	12	0			
				1244	8	11
Butcher's Meat, Fish and Poultry	290	18	7			
Bread	72	9	3			
Butter	79	4	6			
Milk	175	7	7			
Ale and Porter	41	16	0			
Mineral Waters	0	18	0			
Groceries and other Provisions ...	159	19	1			
Gas	57	14	3			
Coal	224	15	11			
				1103	3	2
				£2400	11	1

Receipts.

Maintenance of Patients Repaid...	502	19	6			
Use of Disinfecting Chamber ...	2	1	6			
Sale of Hay, Garden Produce. etc.	7	13	3			
				512	14	3
				£512	14	3

salaries, wages, provisions and coal *(see Table F)*, but there have been several items of exceptional expenditure, nearly £70 being spent on a new and improved ambulance, and more than £200 in excess of the previous year, on alterations and repairs.

Against this has to be set a considerable increase in the receipts for patients' maintenance, from the County Authorities, amounting to more than £500.

The cases under treatment were 546, which, calculated into the above expenditure, gives as the total cost per patient treated £4 : 7 : 8, but the nett cost to the rates was less than this, on account of the payments for patients sent from adjoining districts. Thus, after deducting the receipts, £512 : 14 : 3, there remains a balance of expenditure of £1887 : 16 : 10, which gives a nett cost to the Borough of £3 : 9 : 1 per patient under treatment.

The average daily number of beds occupied was 59 (twenty-three more than in 1889). The average stay of each patient in hospital was thirty-nine days. The cost *per occupied bed* (which is the only legitimate way of estimating and stating hospital expenditure) was, therefore 15/7 per week, a very moderate sum indeed. This comparatively low rate can only be arrived at when a large number of patients are under treatment, and when, as is the case with Scarlet Fever, a considerable proportion are children, whose diet consists largely of milk, and who, during a great part of their stay in Hospital, are convalescent, and require but little nursing.

Although the Hospital is, from its nature, situate away from the town, and comes but little under public notice, it has not been entirely forgotten or over-looked, as the following list of presents shews. Besides these many smaller things, such as flowers, ornaments, &c., have been brought by the friends and parents of children, both during the time the latter were in the Hospital, and not unfrequently long after their recovery and return home.

Presents to Hospital, 1890.

MRS. BLUNT, Toys.
MR. BERRY, Magazines.
MR. BARKS, Oranges.
MRS. BILLSON, Books and Toys.
A. CURTIS (friends of), Large Scrap Book.
DR. CLIFTON, Dolls, Toys and Books.
MRS. EVERARD (children of), Books, Toys, and Pictures.
MRS. GIMSON (children of) Scrap Books.
MR. GREEN, Belgrave Gate, Flowers.
MISS GREEN, Abbot's Oak, Whitwick, Toys.
MISS HUTCHINSON, Illustrated Papers.
MR. HODGES, Toys.
HAZEL STREET BOARD SCHOOL, Dolls, Toys, and Oranges.
MISS JACKSON, Books and Games.
MRS. LENNARD, Magazines.
ST. LEONARD'S CHURCH, Flowers.
MRS. LEEDS, Oranges.
MISS MALLETT, Magazines.
NEW FOUND-POOL MISSION ROOM, Flowers and Christmas Cards.
MR. NEWITT, Crackers and Christmas Tree Ornaments.
MRS. PENNY, Crackers.
MAUDE PAGE (per Canon Vaughan), Dolls and Scrap Books.
MRS. SMITH, Christmas Tree.
CANON VAUGHAN, Weekly and Monthly Periodicals, Books, and Cards.
ALDERMAN WOOD, Periodicals.
COUNCILLOR WILFORD, Magazines.
WYGGESTON SCHOLARS (per Canon Vaughan), Dressed Dolls, Balls, etc.
ALDERMAN WINDLEY, Newspapers.
MISS WOOD, Dressed Dolls.

APPENDIX.

REPORT OF ANALYST.

LOCALITIES OF DEATHS FROM ZYMOTIC DISEASES.

MORTALITY TABLES.

MAP.

REPORT OF ANALYST.

Borough Analyst's Laboratory,
Town Hall, Leicester,

20th March, 1890.

To the Sanitary Committee,

Gentlemen,

Herewith I beg to present to you my report as Public Analyst under the Adulteration Acts, together with other work of an Analytical character, carried on in the Laboratory during the year.

TABLE I.

Articles of Food, etc., Analysed under the provisions of the "Sale of Food and Drugs" Act, during the year 1890.

Commodity Analyzed.	Number of Samples obtained.	Number of Genuine Samples.	Number of Adulterations.	Remarks.
Milk	94	86	8	Three prosecutions: one offender fined 10/- and costs; one 7/6 and costs; and one condemned in costs only; four other offenders cautioned by Committee.
Butter	5	5	0	
Spirits	6	5	1	Offender cautioned by Committee.
Bread	12	12	0	
Lard	6	6	0	
Beer	6	6	0	
Vinegar... ...	7	7	0	
Margarine ...	2	2	0	
Coffee	6	6	0	
Flour	6	6	0	
Total ...	150	141	9	

TABLE II.

Number of Samples Analyzed, and proportion of Adulterated Articles in 1890, and in the nine previous years.

Year.	Number of Samples Analyzed.	Number of Samples Adulterated.	Percentage of Samples Adulterated.	Number of Prosecutions.	Percentage of Adulterated Samples in the following articles.			
					Milk.	Butter.	Spirits.	Groceries
1890	**150**	**9**	**6·0**	**3**	**8·5**	**0**	**16·6**	**0**
1889	178	19	10·7	10	9·2	35·7	33·3	13·3
1888	162	17	10·4	10	9·5	11·7	50·0	16·0
1887	146	16	11·0	10	10·8	13·3	75·0	6·6
1886	168	25	14·8	9	17·4	17·6	20·0	28·4
1885	87	0	0·0	0	0·0	0·0	0·0	0·0
1884	96	4	4·2	4	6·4	0·0	22·2	0 0
1883	138	10	7·2	4	8·9	0·0	22·2	17·6
1882	130	1	0·8	1	0·0	0·0	0·0	25·0
1881	131	7	5·3	6	12·0	0·0	0·0	10·0

One hundred and fifty samples of articles of food or drink have been examined by me *(see Table I.)*, of which nine only were found to be adulterated, or tampered with, as to their purity equal to 6 per cent. of the whole samples analyzed. This is a lower proportion than in any year since 1885 *(see Table II.)*.

Ninety-four samples of Milk were analyzed, of which eighty-six were pure; the remaining eight had been the subject of fraudulent manipulation. Three offenders were prosecuted and convicted, four of the others were brought before you and cautioned.

The want of any fixed legal standard by which to judge the quality of Milk is much to be deplored; in many other articles of food, the need for a definite standard is required, but with no other commodity is the need so urgent as for Milk. The standard at present in use by the referees is much too low, and is founded upon the poorest quality of Milk ever known to have been given by a cow, and is far below the average yield of healthy animals.

Whenever the Adulteration Acts are overhauled again by our legislators, the strict codes in force in many parts of the United States, and in some continental countries will, doubtless, be usefully considered.

WATER ANALYSIS.

The number of wells in the Borough from which water is obtained for domestic purposes is now becoming small—the fewer the better—for shallow wells placed in the midst of a crowded community, are an ever possible source of disease from the many facilities which abound, for their dangerous contamination; such contamination often not being known or suspected until an outbreak of illness arouses suspicion.

The water from eleven wells has been examined during the year; in six of these dangerous pollution was found, and the wells closed by order of the Committee.

The public supply from the Corporation mains has been analyzed at regular intervals, and found satisfactory in quality, being well up to its usual standard of purity.

The water obtained from the deep boring at the New Public Baths, in Humberstone Gate, has also been examined and reported on by me. Organically it is, as was to be expected of absolute purity, but it is exceedingly hard from the presence of large quantities of lime salts.

In connection with the proposed new supplemental water supply from the Swithland Brook, I made a number of analyses, the results of which were given in the evidence laid before the Committee of the House of Lords. The general characters of this water are similar to that from the Bradgate Reservoir, and like all supplies obtained from a water shed partially under cultivation, contains a considerable amount of albumenoid ammonia, derived chiefly from vegetable matter; no other fault can be found with it.

OTHER LABORATORY WORK.

Unwholesome Meat.— Amongst miscellaneous work carried on in the Chemical Laboratory, has been the examination of suspected samples of tuberculous meat. The examination of flesh from animals supposed to have died from anthrax (the disease which in the human subject gives rise to malignant pustule), and other suspected unwholesome foods.

Poisoning Cases.—In two cases of poisoning, both being the subject of a coroner's enquiry, the contents of the stomach were analyzed by me; in one opium, in the other a strong mineral acid was the agent causing death.

Gas Analysis.—At intervals I have examined the gas supply of the town as to the impurities contained therein, and it is with very much satisfaction, I am able to report upon the greatly improved purity of this illuminant. Hydrogen sulphide has not once been detected, free ammonia was present in only infinitesimal quantities, and the notorious and much abused "Sulphur compounds" have been reduced to an average of 17 or 18 grains per 100 cubic feet. Few gas works in the country, probably, shew a lower proportion than this.

Sewage Effluents.—During the autumn, and up to the end of the year, a large number of analyses of sewage effluents from the farm were made by me, chiefly owing to complaints from the County Authorities as to fouling of streams within their jurisdiction.

I reported to the Council, that in October the effluents, then being turned into the Ansty Brook, were in every way satisfactory and well within the limits of impurity laid down by the Rivers Pollution Commission. A report confirming this was also received from Professor Frankland.

At certain times for a limited period, and during the continuance of the severe frost, the working of the farm was attended with some difficulty, and the effluents then brought to me were not so satisfactory; at the present time they are all that can be desired or expected.

I am, Gentlemen,
Yours obediently,
HY. TOMKINS, B.Sc., &c.,
Public Analyst.

Localities of Deaths from the principal Zymotic Diseases during the year 1890. Arranged into Wards.

DIARRHŒA.

WARD I.

Nil.

WARD II.

	No. of Deaths.
Abbey Street ...	1
Archdeacon Lane ...	2
Belgrave Gate ...	2
Burley's Lane ...	3
Burfield Street ...	1
Caroline Street ...	1
Church Gate (Lower)	2
Gas Street	2
Gravel Street ...	2
Grafton Place ...	1
Green Street ...	1
Green Street (Lower)	2
Mansfield Street ...	1
Navigation Street ...	2
New Road	1
Old Mill Lane ...	1
Pasture Lane ...	3
Royal East Street ...	2
Sandacre Street ...	2
Sanvey Gate... ...	2
Spencer Street ..	1
Spitalhouse Street ...	2
St. John Street ...	1
St. Margaret's Street	1
Thames Street ...	1
Westbourne Street ...	1
Wood Street... ...	1
Total ...	42

WARD III.

	No. of Deaths.
Alfred Street ...	1
Ash Street	2
Argyle Street ...	3
Belgrave Road ...	1
Bedford Street (Little)	1
Brandon Street ...	1
Birstall Street ...	1
Britannia Street ...	2
Brierley Street ...	1
Brook Street... ...	3
Brunswick Street ...	1
Carley Street ...	1
Catherine Street ...	1
Christow Street ...	1
Chester Street ...	2
Crab Street	1
Cranbourne Street ...	2
Curzon Street ...	1
Denman Street ...	1
Dorset Street ...	2
Dryden Street ...	1
Elm Street	1
Hill Street (Lower)...	3
Junction Road ...	1
Kenyon Street ...	1
Lee Street	1
Lewin Street ...	1
Neal Street	1
Palmerston Street ...	1
Percy Street	1
Russell Street ...	5
Stanley Street ...	1
Syston Street ...	1
Wharf Street ...	1
Willow Street ...	2
Willow Bridge Street	1
Willow Street (Lower)	1
Woodboy Street ...	2
Total ...	56

WARD IV.

	No. of Deaths.
Berners Street ...	1
Biddulph Street ...	2
Cedar Road	1
Cecil Road	1
Charnwood Street ...	2
Clipstone Street ...	3
Colton Street ...	1
Conduit Street ...	1
Conduit Street (U).	1
Connaught Street ...	1
Edward Street ...	2
Evington Vale ...	1
Farnham Street ...	1
Frank Street ...	1
Granby Street ...	1
Humberstone Road...	1
Hutchinson Street ...	1
Mere Road	2
Mount Street ...	1
Northampton Street	1
Oxendon Street ...	1
Preston Street ...	2
Queen Street ...	1
Rodney Street ...	1
St. Saviour's Road ...	1
Sherrard Road ...	1
Stoughton Street ...	2
Thomas Street ...	2
Twycross Street ...	1
Union	7
Vulcan Street ...	1
Total ...	46

WARD V.

	No. of Deaths.
Albion Street ...	1
County Asylum ...	1
James Street... ...	1
Total ...	3

WARD VI.

	No. of Deaths.
Aylestone Street ...	1
Bakehouse Lane ...	1
Bede Street	2
Brown Street (Lower)	1
Carlisle Street ...	2

DIARRHŒA (continued).

	No. of Deaths.
Castle Street ...	1
Cardigan Street ...	1
Celt Street	1
Coventry Street ...	2
Cromwell Street ...	1
Fairfax Street ...	1
Filbert Street ...	1
Fosse Road	1
Gray Street	1
Grange Lane ...	3
Havelock Street ...	2
Knighton Street ...	1
Laxton Street ...	1
Luther Street ...	1
Mill Lane	2
Outram Street ...	1
Oxford Street ..	1
Parliament Street ...	1
Poplar Avenue ...	1
Ridley Street ...	1
Walnut Street ...	1
Total ...	33

WARD VII.

	No. of Deaths.
Abbey Gate	1
Alexander Street ...	2
All Saints' Place ...	1
All Saints' Road ...	2
Blue Boar Lane ...	3
Burgess Street ...	1
Causeway Lane ...	2
Cardinal Street ...	1
Elbow Lane	1
Emerald Street ...	2
Frog Island	2
Grape Street... ...	1
Grundon Street ...	1
Harding Street ...	1
Henry Street ...	1
Jewry Wall Street ...	1
Johnson Street ...	1
Littleton Street ...	2
Northgate Street ...	2
Olive Street... ...	1
Ruding Street ...	1
Sarah Street... ...	1
Swan Street	2
Sycamore Lane ...	1
St. Peter's Lane ...	2
Vauxhall Street ...	1
Warrington Street ...	1
Total ...	38

TOTALS.

Ward I.	Nil
Ward II.	42
Ward III.	56
Ward IV.	46
Ward V.	3
Ward VI.	33
Ward VII.	38
Total ...	218

MEASLES.

WARD I.

Nil.

WARD II.

Belgrave Gate ...	1
Leadenhall Street ...	1
Total ...	2

WARD III.

Chester Street ...	2
Grosvenor Street ...	1
Oak Street	1
Rodney Street ...	1
Russell Street ...	3
Spitalhouse Street ...	1
Total ...	9

WARD IV.

Charles Street (U.)...	1
Connaught Street ...	1
Evington Street ...	1
Frank Street ...	1
Free Lane	1
Gartree Street ...	1
Guthlaxton Street ...	1
Oxendon Street ...	1
Shenton Street ...	1
Sheldon Street ...	1
Stoughton Street ...	2
Twycross Street ...	1
Total ...	13

WARD V.

Nil.

WARD VI.

Carlisle Street ...	1
King Richard's Road	1
Noble Street ...	1
Total ...	3

WARD VII.

Redcross Street ...	1
Slater Street... ...	1
Vauxhall Street ...	1
Total ...	3

TOTALS.

Ward I.	Nil
Ward II.	2
Ward III.	9
Ward IV.	13
Ward V.	Nil
Ward VI.	3
Ward VII.	3
Total ...	30

WHOOPING COUGH.

WARD I.

Nil.

WARD II.

Nil.

WARD III.

	No. of Deaths.
Bardolph Street	1
Carley Street	1
Total	2

WARD IV.

	No. of Deaths.
Biddulph Street	1
Diseworth Street	1
Edward Street	1
Medway Street	1
Roslyn Street	1
Total	5

WARD V.

Nil.

WARD VI.

	No. of Deaths.
Bakehouse Lane	1
Clarendon Street	1
Mill Lane	1
New Bridge Street	1
New Park Street	1
Tyndale Street	1
Total	6

WARD VII.

	No. of Deaths.
All Saints' Road	1
Causeway Lane	2
Total	3

TOTALS.

	No. of Deaths.
Ward I.	Nil
Ward II.	Nil
Ward III.	2
Ward IV.	5
Ward V.	Nil
Ward VI.	6
Ward VII.	3
Total	16

SCARLATINA.

WARD I.

Nil.

WARD II.

Archdeacon Lane	1
Bay Street	1
Gold Street	1
Harrison Street	1
St. Margaret's Street	1
Total	5

WARD III.

Brunswick Street	1
Crab Street	1
Palmerston Street	1
Wharf Street	2
Willow Street	2
Willow Street (L.)	1
Woodboy Street	2
Total	10

WARD IV.

Basil Street	1
Edward Street	1
Farnham Street	1
Myrtle Road	2
Nelson Square	1
Northampton Street	1
Occupation Road	1
William Street	1
Total	9

WARD V.

Nil.

WARD VI.

Asylum Street	1
Catesby Street	1
Filbeet Street	1
Gerrard Street	2
Gray Street	1
Newbridge Street	1
New Park Street	1
Outram Street	1
Total	9

WARD VII.

Burgess Street	1
Crystal Street	1
Emerald Street	1
Littleton Street	1
Opal Street	1
Total	5

TOTALS.

Ward I.	Nil
Ward II.	5
Ward III.	10
Ward IV.	9
Ward V.	Nil
Ward VI.	9
Ward VII.	5
Total	38

DIPHTHERIA.

WARD I.

Nil.

WARD II.

	No. of Deaths.
Devonshire Street	1
Total	1

WARD III.

	No. of Deaths.
Birstall Street	1
Denmark Street	1
Dysart Street	1
Gladstone Street	1
Wanlip Street	1
Total	5

WARD IV.

	No. of Deaths.
Chandos Street	1
Conduit Street (U.)	1
Hart Road	1
Mount Road	1
Newby Street	1
Total	5

WARD V.

Nil.

WARD VI.

Nil.

WARD VII.

Nil.

TOTALS.

	No. of Deaths.
Ward I.	Nil
Ward II.	1
Ward III.	5
Ward IV.	5
Ward V.	Nil
Ward VI.	Nil
Ward VII.	Nil
Total	11

TYPHOID FEVER.

WARD I.

Nil.

WARD II.

Burfield Street	1
Total	1

WARD III.

Birstall Street	1
Brook Street	1
Brunswick Street (U)	1
Milton Street	1
Palmerston Street	1
Rodney Street	1
Total	6

WARD IV.

Cedar Road	1
Clipstone Street	1
Elm Street	1
Frederick Street	1
Melbourne Street	1
Newby Street	1
Northampton Street	1
Union	3
Spinney Hill Road	1
Total	11

WARD V.

Crescent Street	1
Total	1

WARD VI.

Arundel Street	1
Braunstone Gate	1
Raglan Street	1
West Bridge Street	1
Total	4

WARD VII.

Cumberland Street	1
Total	1

TOTALS.

Ward I.	Nil
Ward II.	1
Ward III.	6
Ward IV.	11
Ward V.	1
Ward VI.	4
Ward VII.	1
Total	24

MORTALITY TABLES.

Deaths in the Borough of Leicester during the fifty-three weeks ending January 3rd, 1891.

NOTE.—The deaths of non-residents occurring in Public Institutions situated in the Borough are excluded, and the deaths of residents occurring in Public Institutions beyond the Borough are included.

	0 to 1		1 to 5		Under 5		5—20		20—40		40—60		60—80		80 and upwards.		Over 5		All Ages		Total.
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Class I.																					
SPECIFIC FEBRILE OR ZYMOTIC DISEASES.																					
1.—Miasmatic Diseases.																					
Small-pox: Vaccinated																					
Small-pox: Unvaccinated																					
Small-pox: Not known																					
Small-pox: Not stated																					
Measles	4	1	8	11	12	12	1	4			1						2	4	14	16	30
Scarlet Fever		1	19	11	19	12	5	1		1							5	2	24	14	38
Diphtheria			4	2	4	2	1	4									1	4	5	6	11
Whooping Cough	6	3	4	3	10	6													10	6	16
Typhus Fever																					
Enteric or Typhoid Fever			1	...	1		4	5	4	4	1	3	1	1			10	13	11	13	24
Simple Continued Fever																					
Other Miasmatic Diseases									1			1	3	1	1		5	2	5	2	7 (Inflnz.)
2.—Diarrhœal Diseases.																					
Dysentery	1				1			1	1								1	1	2	1	3
Diarrhœa	97	93	11	5	108	98	1	1			2	2		2	2	2	5	7	113	105	218
Cholera																					
3.—Malarial Diseases.																					
Ague																					
Remittent Fever																					
4.—Zoogenous Diseases.																					
Cow-pox, and effects of Vaccination																					
Hydrophobia																					
Glanders																					
Splenic Fever																					

5.—Veneral Diseases																					
Syphilis	6	5	...	...	6	5	...	...	...	...	...	...	...	1	...	...	...	1	6	6	12
Gonorrhœa, Stricture of Urethra	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6.—Septic Diseases.																					
Erysipelas	2	1	...	...	2	1	...	3	...	...	...	2	2	1	...	...	2	6	4	7	11
Pyæmia, Septicæmia...	...	...	...	...	...	...	...	...	...	1	...	2	1	...	...	...	1	3	1	3	4
Puerperal Fever...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	1	1
	116	104	47	32	163	136	12	19	6	7	4	10	7	6	3	2	32	44	195	180	375
Class II.																					
PARASITIC DISEASES.																					
Thrush and other Vegetable Parasitic Diseases	1	1	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1	1	2
Worms, Hydatids, and other Animal Parasitic Diseases	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1	...	1
	1	1	...	...	1	1	1	...	...	...	...	...	...	...	...	...	1	...	2	1	3
Class III.																					
DIETIC DISEASES.																					
Want of Breast Milk, Starvation	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Purpura and Scurvy	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Alcoholism { *a* Del. Tremens	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Alcoholism { *b* Intemperance	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	1	1	1	1	2
	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	1	1	1	1	2
Class IV.																					
CONTITUTIONAL DISEASES.																					
Rheumatic Fever	...	...	...	...	...	...	...	1	1	2	...	...	...	...	...	...	1	3	1	3	4
Rheumatism	...	...	...	...	...	...	...	...	2	...	1	1	...	...	...	...	3	1	3	1	4
Gout	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cancer, Malignant Disease	...	...	...	...	...	...	...	...	1	8	10	25	11	22	1	1	23	56	23	56	79
Cancrum Oris (Noma)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

DEATHS (continued),

	0 to 1		1 to 5		Under 5		5—20		20—40		40—60		60—80		80 and upwards.		Over 5		All Ages		Total.
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Rickets			1	1	1	1													1	1	2
Tabes Mesenterica	6	4	4		10	4		1										1	10	5	15
Phthisis	1		2	2	3	2	11	15	53	45	41	20	5	2			110	82	113	84	197
Hydrocephalus and Tubercular Meningitis	5	8	3	3	8	11	3	3		1							3	4	11	15	26
Other forms of Tuberculosis	6	9	4	5	10	14		3		2								5	10	19	29
Scrofula										1								1		1	1
Anæmia, Chlorosis, Leucocythæmia							2		1			1					3	1	3	1	4
Diabetes							1		1	3	1	4		2			3	9	3	9	12
Other Constitutional Diseases												1						1		1	1
	18	21	14	11	32	32	17	53	59	62	53	52	16	26	1	1	146	164	178	196	374
Class V. LOCAL DISEASES.																					
1.—Diseases of Nervous System.																					
Inflammation of Brain or Membranes	11	11	11	10	22	21	10	6	4	3	2	2		1			16	12	38	33	71
Apoplexy, Softening of Brain, Paralysis	1				1				6	9	26	28	37	45	3	7	72	89	73	89	162
Insanity, General Paralysis of Insane									2		3	1	1				6	1	6	1	7
Chorea											1						1		1		1
Epilepsy				1		1		1	4	2	1		2	1			7	4	7	5	12
Convulsions	89	70	18	20	107	90		2										2	107	92	199
Laryngismus Stridulus																					
Disease of Spinal Cord, Paraplegia, Paralysis Agitans								1		1	2		3	1			5	3	5	3	8
Other Diseases of Nervous System							1	1									1	1	1	1	2
2.—Diseases of Organs of Circulation.																					
Pericarditis and Endocarditis									2	1			1				3	1	3	1	4
Heart Disease	1	1	1		2	1	6	7	21	19	32	41	51	36	2	3	112	106	114	107	221
Aneurism											2						2		2		2
Embolism, Thrombosis																					
Other Diseases of Blood Vessels									1	2	...	2	4	...	1	1	6	5	6	5	11

3.—Diseases of Respiratory Organs																					
Laryngitis	3	1	1	1	4	2	2	......	......	1	......	......	......	1	......	......	2	2	6	4	10
Bronchitis	51	29	27	21	78	50	......	1	4	6	22	27	29	56	7	8	62	98	140	148	288
Pleurisy	......	......	......	1	......	1	1	1	......	2	......	1	......	......	......	......	1	4	1	5	6
Pneumonia	14	9	25	16	39	25	5	3	12	13	16	13	13	16	1	1	47	46	86	71	157
Asthma and Emphysema...	......	......	......	......	......	......	......	1	1	......	7	2	4	3	......	......	12	6	12	6	18
Croup	1	......	1	3	2	3	......	1	......	......	......	......	......	......	......	......	......	1	2	4	6
Other Diseases of Respiratory Organs ...	......	1	......	3	......	4	......	......	3	......	3	1	1	......	......	1	7	2	7	6	13
5.—Diseases of Digestive Organs.																					
Gastritis	3	1	1	......	4	1	1	......	......	......	......	3	......	4	......	......	1	7	5	8	13
Other Diseases of the Stomach	1	......	......	......	1	......	......	1	......	2	......	......	......	2	......	......	......	5	1	5	6
Enteritis	10	4	3	3	13	7	1	......	1	......	1	1	1	1	1	......	5	2	18	9	27
Peritonitis	3	8	3	2	6	10	6	6	1	3	1	2	1	2	......	......	9	13	15	23	38
Ascites...	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Obstructive Disease of Intestines	2	......	......	1	2	1	1	......	......	......	4	1	3	2	......	......	8	3	10	4	14
Fistula...	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Pancreas Disease, etc.	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Cirrhosis of Liver	......	......	......	......	......	......	......	......	......	3	3	3	1	1	1	......	5	7	5	7	12
Jaundice and other Diseases of Liver ...	......	3	......	......	......	3	......	......	2	......	4	......	4	2	......	......	10	2	10	5	15
5.—Diseases of Urinary Organs.																					
Nephritis	1	1	......	......	1	1	1	......	......	......	2	3	2	1	......	......	5	4	6	5	11
Bright's Disease... (Albuminuria)	......	......	......	......	......	......	......	......	1	......	3	1	2	2	......	......	6	3	6	3	9
Diseases of Bladder or Prostrate	......	......	......	......	......	......	......	......	1	......	......	......	4	......	1	......	6	......	6	......	6
Calculus (Stone)	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	H...	......	......	......
Other Diseases of Urinary System... ...	......	......	1	......	1	......	......	......	......	2	1	3	2	......	......	......	3	5	4	5	9
6.—Diseases of Reproductive System.																					
(*a*) ORGANS OF GENERATION.																					
Male Organs	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Female Organs	......	......	......	......	......	......	......	1	......	1	......	1	......	......	......	......	......	3	......	3	3

DEATHS (continued).

	0 to 1		1 to 5.		Under 5		5—20		20—40		40—60		60—80		80 and upwards.		Over 5		All Ages		Total.
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
(*b*) OF PARTURITION.																					
Abortion, Miscarriage	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	1	1
Puerperal Convulsions	...	...	...	...	...	...	...	1	...	3	...	...	...	...	...	...	...	4	...	4	4
Placenta Prævia, Flooding	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	1	1
Other Accidents of Childbirth...	...	...	...	...	...	...	...	1	...	8	...	1	...	...	...	...	...	10	...	10	10
7.—Diseases of Integumentary System.																					
Phlegmon	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ulcer, Carbuncle	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	1	...	1
Other Diseases of Skin, etc.	...	...	...	1	...	1	1	...	...	...	...	...	...	...	...	...	1	...	1	1	2
8.—Diseases of Bones and Joints.																					
Caries and Necrosis	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	2	...	2	2
Arthritis, Ostitis, Periostitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases of Bones and Joints ...	...	...	...	...	...	...	...	...	2	...	1	...	1	...	...	...	4	...	4	...	4
9.—Diseases of Organs of Special Sense.																					
Ear, Eye, Nose	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	2	...	2	...	2
10.—Diseases of Lymphatic System, etc.																					
Lymphatics and Spleen	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	2	...	2	...	2
Bronchocele, Addison's Disease	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	1	1
Quinsy...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	1	...	1
	191	139	92	83	283	222	38	35	70	85	137	137	169	177	17	22	431	456	714	678	1392

Class VI. DEVELOPMENTAL DISEASES.																					
Premature Birth	45	48	......	......	45	48	......	......	......	......	......	......	......	......	......	......	......	......	45	48	93
Atelectasis	3	......	1	......	4	......	......	......	......	......	......	......	......	......	......	......	......	......	4	......	4
Congenital Malformations	3	5	......	......	3	5	......	......	......	......	......	......	......	......	......	......	......	......	3	5	8
Teething	4	8	3	2	7	10	......	......	......	......	......	......	......	......	......	......	......	......	7	10	17
Atrophy, Inanition, Debility	121	109	8	3	129	112	......	1	1	......	1	......	......	......	......	......	2	1	131	113	244
Old Age	......	......	......	......	......	......	......	......	......	......	......	......	56	56	29	49	85	105	85	105	190
	176	170	12	5	188	175	......	1	1	......	1	......	56	56	29	49	87	106	275	281	556
Class VII. DEATHS FROM VIOLENCE.																					
1—Accident or Negligence.																					
Fracture and Contusions	......	......	3	......	3	......	3	1	6	......	7	1	......	6	2	1	18	9	21	9	30
Gunshot Wounds	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Cut, Stab	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Burns and Scalds	2	......	1	......	3	......	......	2	......	......	......	......	......	......	......	......	......	2	3	2	5
Poison	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	1	......	1	1
Drowning	......	1	1	......	1	1	1	3	1	......	......	1	1	1	......	......	3	5	4	6	10
Suffocation	10	5	1	......	11	5	1	......	......	......	......	......	......	......	......	......	1	......	12	5	17
Otherwise	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
1—Homicide.																					
Manslaughter	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Murder	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
3.—Suicide.	......	......	......	......	......	......	1	......	4	4	4	......	4	......	......	......	13	4	13	4	17
	12	6	6	......	18	6	6	6	11	5	11	2	5	7	2	1	35	21	53	27	80

DEATHS (continued).

	0 to 1		1 to 5		Under 5		5—20		20—40		40—60		60—80		80 and upwards.		Over 5.		All ages.		Total.
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Class VIII. **DEATHS FROM ILL-DEFINED AND NOT SPECIFIED CAUSES.** (*e.g.*, Dropsy, Abscess, Tumour, Hæmorrhage, Mortification, Death from Natural Causes, etc).	3	......	1	2	4	2	2	......	......	1	2	2	2	2	......	......	6	5	10	7	17
	3	......	1	2	4	2	2	......	......	1	2	2	2	2	......	......	6	5	10	7	17
Class I. Zymotic Diseases	116	104	47	32	163	136	12	19	6	7	4	10	7	6	3	2	32	44	195	180	375
„ II. Parasitic Diseases... ...	1	1	......	......	1	1	1	......	......	......	......	......	......	......	......	......	1	......	2	1	3
„ III. Dietic Diseases	......	......	......	......	......	......	......	......	......	......	......	1	1	......	......	......	1	1	1	1	2
„ IV. Constitutional Diseases	18	21	14	11	32	32	17	23	59	62	53	52	16	26	1	1	146	164	178	196	374
„ V. Local Diseases...	191	139	92	83	283	222	38	35	70	85	137	137	169	177	17	22	431	456	714	678	1392
„ VI. Developmental Diseases	176	170	12	5	188	175	......	1	1	......	1	......	56	56	29	49	87	106	275	281	556
„ VII. Violent Deaths	12	6	6	......	18	6	6	6	11	5	11	2	5	7	2	1	35	21	53	27	80
„ VIII. Ill-defined, etc.	3	......	1	2	4	2	2	......	......	1	2	2	2	2	......	......	6	5	10	7	17
Totals	517	441	172	133	689	574	76	84	147	160	208	204	256	274	52	75	739	797	1428	1371	2799

The following return was furnished by Mr. Chamberlain, the Superintendent Registrar for Leicester, after the Health Report was printed :—

CENSUS 1891. BOROUGH OF LEICESTER.

Return of Population in Civil Parishes and Municipal Wards.

CIVIL PARISHES.

NAME OF PARISH.	Number of Houses.			Population.		
	Inhabited.	Uninhabited.	Building.	Males.	Females.	TOTALS.
All Saints	1538	44	11	3344	3523	6867
Augustine Friars	23	...	...	33	48	81
Black Friars	518	7	...	1221	1291	2512
Saint Leonard	643	38	10	1659	1750	3409
Saint Martin	356	13	...	765	1097	1862
Saint Margaret	19,238	634	168	44,118	48,817	92,935
Saint Mary	6218	165	68	14,185	16,618	30,803
The Newarke	355	10	...	822	954	1776
Saint Nicholas	370	20	...	815	855	1670
Castle View	29	...	...	63	73	136
Total	29,288	931	257	67,025	75,026	142,051

MUNICIPAL WARDS.

NAME OF WARD.	HOUSES.			POPULATION.		
	Inhabited.	Uninhabited.	Building.	Males.	Females.	TOTALS.
No. 1, or Saint Martin's ...	356	13	...	765	1097	1862
No. 2, or North St. Margaret's	3192	71	14	7338	7622	14,960
No. 3, or Middle ditto	7194	285	40	17,181	18,062	35,243
No. 4, or East ditto	7782	239	114	17,530	20,288	37,818
No. 5, or East Saint Mary's ...	1908	72	17	3966	5561	9527
No. 6, or West ditto ...	5787	142	51	13,206	14,977	28,183
No. 7, or All Saints	3069	109	21	7039	7419	14,458
Total	29,288	931	257	67,025	75,026	142,051

May 8th, 1891.

LIONEL P. CHAMBERLAIN,
Superintendent Registrar.

COLLEGE OF SURGEONS OF ENGLAND
91

INDEX.

PAGE.
Abatement of Nuisances 40, 42
Adulteration of Food ... 39, 84
Allotments Act... 35
Analyst's Report 84
Animals, Diseases 20
Appendix 83
Area of Borough 45
Artizan Dwellings 23
Ashes, Destructor 32

Bakehouses 26
Baths 21
Births 47

Cancer 69
Causes of Phthisis 71
Canal Boats 38
Classified Causes of Deaths ... 59
Closure of Schools 9
Closets, Water 33
Coroner's Inquests 73
Compulsory Notification 10
Cow-sheds 38
Constitutional Diseases 69
Consumption 69
Cruelty to Children 55

Dairies 26, 38, 43
Death-rate 7, 49
Destructor 32
Death-rate in large Towns 50, 52
Deaths from Violence 72
Deaths by Poison 73, 87
Developmental Diseases 72
Disinfection 41
Diphtheria 16, 63
Diseased Meat 20
Diseases amongst Animals ... 20
Diarrhoea 18, 66
Dwellings of the Poor 23

Effluents, Sewage 31, 87
Epizootic Disease 20

PAGE.
Erysipelas 17, 67
Extension of Borough 8

Fever Hospital Report 75
Fever Hospital, cases removed to 12, 75
Fish Unwholesome, Destroyed 43
Flood Works 28
Food, Unwholesome... 43
Food, Adulteration 39, 84

Gas Analysis 87

Health of Leicester in 1890 ... 7
Hospital Report, Fever 75
Hospital Treatment of Typhoid 16
Housing of Working Classes 23, 34
House Inspection 38, 41
Hydrophobia 20
Illegitimacy 56
Impurities in Gas 87
Infectious Disease 8, 61
Influenza 9
Infectious Disease Prevention Act, 1890 17
Inspector's Report 37
Inhabited Houses 45
Infantile Mortality 55
Infantile Insurance 56
Inquests 73
Isolation in Hospital 12

Koch's Treatment of Tuberculosis 69

Legislation, Sanitary in 1890 ... 34
Local Diseases 71
Localities of Zymotic Deaths ... 89
Lodging Houses 23

Marriages 47
Measles 9, 62

PAGE.
Meat Condemned 43
Meat and Diseased Animals 20, 26
Meat Unwholesome ... 20, 43, 47
Mortality in 1890 ... ... 7, 49
Mortality Tables 93

New Sewers 30
Nightsoil Disposal 33
Notified Cases of Infectious Disease 11
Ditto ditto in large Towns 11

Offensive Trades, &c. 43
Open Spaces Act 35

Parasitic Disease 67
Pail System 33
Poisoning 87, 73
Phthisis 58, 69
Plumbers' Registration 34
Polluted Drinking Water... ... 86
Population 7, 45
Prevalence of Sickness 8
Prosecutions 27, 33, 39
Public Health Amendment Act 35
Puerperal Fever... 17

Rabies... 20
Rateable Value 45
Refuse Disposal... 32
Registration of Plumbers ... 34
River Pollution... 31

PAGE
Sanitary Legisiation, 1890 ... 34
Sanitary Inspectors, work of ... 36
Scarlet Fever 12, 63
Sewerage Works 28
Sewage Farm 31, 87
Slaughter Houses 26, 38
Ditto ditto Prosecution... 27
Small Pox 10, 61
Smoke Test, results of 36, 37, 39
Smoke Nuisance 33
Summary of Vital Statistics ... 44

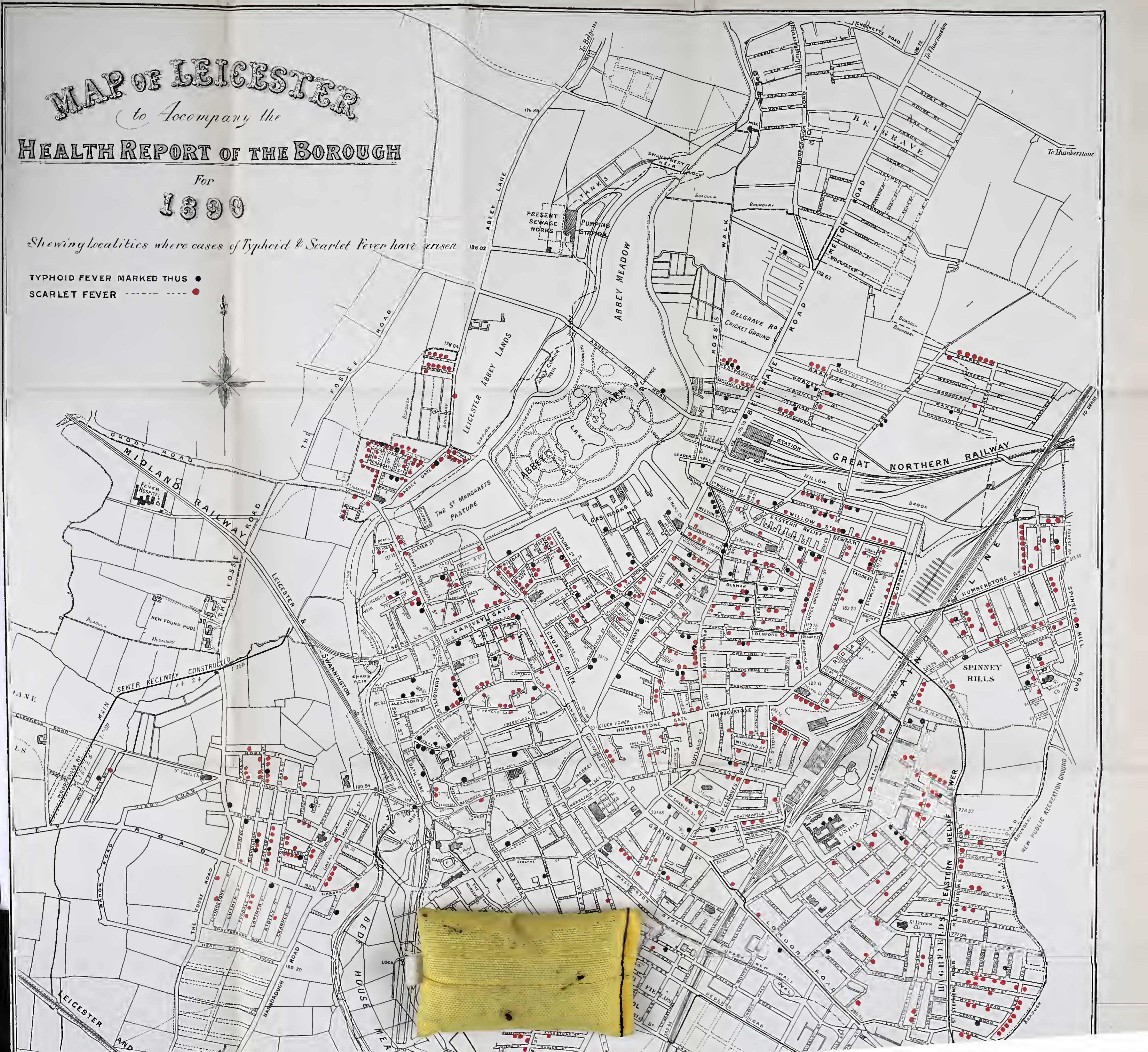
Tuberculosis Enquiry 35
Typhoid Fever 14, 66
Ditto removed to Hospital 16

Uncertified Deaths 73
Unspecified Causes of Deaths... 73
Unwholesome Meat ... 20, 43, 87

Vaccination 47
Violent Deaths 72
Vital Statistics 45

Ward Mortality... ... ... 57, 58
Water Closets 33
Water Supply 21
Water Analysis 86
Whooping Cough 63

Zymotic Disease 8, 61
Zymotic Deaths, Localities of... 89



MAP OF LEICESTER
to Accompany the
HEALTH REPORT OF THE BOROUGH
For
1890

Shewing Localities where cases of Typhoid & Scarlet Fever have arisen

TYPHOID FEVER MARKED THUS ●
SCARLET FEVER ------ ----- ●

LO [illegible] MEDICINE
19 SEP 1947
TROPICAL MEDICINE